FEDERAL ITEM IDENTIFICATION GUIDE

ENGINE BLOCK AND COMPONENTS

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Commander

Defense Logistics Information Service

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BY ORDER OF THE DIRECTOR

/s/

Commander

Defense Logistics Information Service

Contents

GENERAL INFORMATION

1. Purpose and Scope

This Federal Item Identification Guide (FIIG) is a self-contained document for the collection, coding, transmittal, and retrieval of item characteristics and related supply management data for an item of supply for logistical use. This FIIG is to be used to describe items of supply identified by the index of approved item names appearing in this section.

2. Contents

This FIIG is comprised of the following:

Index of Approved Item Names Covered by this FIIG
Applicability Key Index
Section I - Item Characteristics Data Requirements
Section III - New text that should be here.
Appendix A - Reply Tables
Appendix B - Reference Drawing Groups (as applicable)
Appendix C - Technical Data Tables (as applicable)

a. Index of Approved Item Names Covered by this FIIG:

The index lists the approved item names with definitions and item name codes as they appear in Cataloging Handbook H6, applicable to this FIIG. In addition, each name entry is assigned an applicability key for use in relating the characteristics requirements in Section I to the specific item name.

b. Applicability Key Index:

The purpose of this index is to provide the user with a ready reference for determining the specific requirements which are applicable to a given approved item name. This index lists all requirements in sequence as they appear in the FIIG. The applicability of a Master Requirement Coded requirement is indicated by the column headed by the specific item name applicability key as follows:

(1) The letter "X" indicates the requirement must be answered for a full descriptive item.

(2) The letters "AR" indicate the requirement is to be answered as required by (1) instructional notes within the FIIG; (2) when the reply is predicated on replies to a related main requirement; or (3) when an asterisk (*) is used in conjunction with the applicability key column in Section I.

(3) A blank in the column indicates the requirement is not applicable to the specific item name.

c. Section I - Item Characteristics Data Requirements:

This section contains the physical and performance characteristics requirements needed to describe and identify an item of supply. These characteristics differentiate one item from all other items of supply and are to be used to meet the needs of all supported functions. This section is arranged in columns. Identification of each column and instructions pertinent thereto are as follows:

(1) Applicability Key:

The first column shows the applicability key(s) for each requirement. It indicates whether the requirement need be satisfied for the item being identified. "ALL" indicates that the requirement must be answered for all items covered by the FIIG. One or more alphabetic character(s) or group of one or more alphabetic characters indicates a response is required when describing items with an approved item name or names represented by the key(s). An asterisk (*) used in conjunction with any applicability key indicates that the characteristic stated in the requirement may not be applicable to all items covered by the FIIG.

(2) Master Requirement Codes (MRC):

A four-position code which is assigned to a FIIG requirement for identification of the requirement, cross-referencing requirements in the various sections and appendices of the FIIG, and for mechanized processing and retrieval of FIIG generated data. Absence of a MRC for a requirement indicates a lead-in to requirements with individual MRCs in Appendix B.

(a) The coding technique for providing MULTIPLE/OPTIONAL responses will not be used for a Section I requirement assigned Mode Code A or L that leads to Appendix B sketches with dimensional requirements.

(b) Identified Secondary Address Coding:

This technique is for extending the Master Requirement Code so that a unique address is provided for each application of the requirement in relation to the item and is authorized only as instructed within the requirement. Responses coded through this technique will always consist of the following: (1) Master Requirement Codes, (2) indicator code (a single numeric character determined by the number of positions contained), (3) identified secondary address code (1 to 3-digit alphabetic codes determined by the number of predicted replies), (4) the mode code, (5) the reply code and/or clear text response, and (6) end with a record separator (*). Steps (1) through (6) are repeated for each application of the requirement.

(c) AND/OR coding:

A technique for extending the Master Requirement Code to provide a distinctive address for multiple responses to the same requirement. Responses coded through this technique will always consist of (1) Master Requirement Code, (2) mode code, (3) the response or reply code (as instructed by the requirement), (4) a single dollar sign ($) for an OR condition, or a double dollar sign ($$) for an AND condition, (5) the mode code, (6) the response or reply code

(followed by conditions (4) through (6) for each of the multiple responses) and (7) end with a record separator (*). NOTE: Apply this technique only when instructed by the requirement sample reply (e.g.).

(3) Mode Code:

A one-position alphabetic code that specifies the manner in which a response will be prepared. Each requirement assigned a MRC is also assigned a mode code. Sample replies follow each FIIG requirement displaying the proper construction of a response for the assigned mode code. The response to a requirement will always be prepared in accordance with the assigned mode code and sample reply except in the following instances:

(a) Use of E Mode Code replies is not authorized. If a reply needed to describe an item is not listed in the applicable table, contact the FIIG Initiator.

(b) Mode Code K may not be used for any requirement unless instructed by the requirement instructions.

(4) Requirement:

This portion includes the characteristics data elements and data use identifiers required to identify and differentiate one item of supply from another, narrative definitions, and explanations as to use and method of expression. Instructions for coding and preparing replies are also provided.

(5) Reply Code:

A code that represents an established authorized reply to a requirement.

d. Section III - Supplementary Technical and Supply Management Data:

This section includes those characteristics requirements necessary to support specific logistics functions other than National Stock Number assignment.

e. Appendix A - Reply Tables:

Tables of authorized replies to requirements and reply codes when the tables are too lengthy for inclusion in Section I/III, when applicable.

f. Appendix B - Reference Drawings:

This appendix contains representative illustrations which portray specific variations of one or more generic characteristics. If reference drawings contain requirements pages to be used in conjunction with illustrations for dimensioning purposes, the requirements pages will contain Master Requirement Codes, mode codes, and a statement of the requirement. A response to requirements on a requirements page is necessary only for those Master Requirement Codes applicable to the illustration selected.

g. Appendix C - Technical Data Tables:

This appendix contains conversion charts and similar data pertinent to the requirements in Section I/III, when applicable.

3. Enter administrative MRC CLQL immediately following the last FIIG requirement reply, as instructed below:

MRC	Mode Code	Requirement	Example
CLQL	G	COLLOQUIAL NAME (common usage name by which an item is known)	CLQLGWOVEN WIRE CLOTH*

4. Special Instructions and Indicator Definitions

a. Measurements:

Unless otherwise indicated within a requirement example, enter all measurements in decimal form, carried to the nearest three decimal places, with a minimum of one digit preceding the decimal. For SI (metric), enter all measurements with a minimum of one digit before and after the decimal. For fraction to decimal conversion, see Appendix C.

b. Indicators:

A cross hatch (#) following an AIN, MRC, Reply Code or Drawing Number indicates for "ALL EXCEPT USA" use only.

5. Indexes

a. Index of Data Requirements

This index is arranged in alphabetic sequence by Master Requirement Code, cross-referenced to the applicable data requirement and page number(s).

b. Index of Approved Item Names

This index is arranged in alphabetic sequence referenced to Applicability Key.

c. Applicability Key Index

This index is arranged in Applicability Key Sequence.

6. Maintenance

Requests for revisions and other changes will be directed to:

[Page Break]

MRC Index

INDEX OF APPROVED ITEM NAMES COVERED BY THIS FIIG

Approved Item Name	INC	App Key
CHAMBER, PRECOMBUSTION	33265	LA

An item specifically designed to be used as an auxiliary chamber in which combustible gases are ignited and combustion started ahead of the main combustion chamber of a diesel engine. It may have provisions for a glow plug or wick to ignite the fuel mixture during cold weather starting.

CONNECTING ROD, PISTON	60266	DA

A device used for connecting a piston to a crankshaft or to a master connecting rod of an internal combustion engine, steam reciprocating engine, reciprocating air compressor, or the like. The rod may be connected directly to the piston, or it may transmit the motion through a crosshead.

CROWN, PISTON, INTERNAL COMBUSTION ENGINE	48043	CA

A cylindrical body made of metal and/or steel used to accommodate the top part of a piston. Includes ring grooves and/or pins. Excludes PISTON (1), INTERNAL COMBUSTION ENGINE.

CYLINDER HEAD, GASOLINE ENGINE	60371	PA

An item designed to inclose the cylinder bore(s) of an engine block to form a combustion chamber(s). It may have liquid cooling passage(s) and or air cooling fin(s) and may include valve(s), valve guide(s), rocker arm(s), and the like. It is a component part of an ENGINE, GASOLINE. See also CYLINDER HEAD, DIESEL ENGINE.

CYLINDER SLEEVE	16756	BA

A tubular metal item designed primarily as a replaceable wear surface within the cylinder bore of a piston type internal combustion engine, compressor, or reciprocating pump.

CYLINDER SLEEVE AND PISTON ASSEMBLY	60372	BB

A CYLINDER SLEEVE and PISTON (1),(as modified) with one or more of the following: piston pin, piston ring, gaskets and/or seals, grouped as a single unit and intended for one time replacement in the repair of engines, compressors, pumps, and the like.

Engine Block

1. The engine block of an internal combustion engine without internal functioning components, oil pan(s), or cylinder head(s). It may include cylinder sleeves, mounting(s), fasteners, and the like. For items with internal functioning components such as pistons, camshaft, see ENGINE BLOCK ASSEMBLY,(as modified). Use the type of engine as modifier such as gasoline, diesel, gas, and the like.

Approved Item Name	INC	App Key

Engine Block Assembly

1. The engine block of an internal combustion engine with one or more of the internal functioning components, such as pistons, crankshaft, camshaft, or the like. It may include oil pan(s) or cylinder head(s), but not both. For engine block assemblies with both cylinder head(s) and oil pan(s), see ENGINE (as modified); (use type of engine as modifier; e.g., gasoline, diesel).

ENGINE BLOCK ASSEMBLY (1), GASOLINE	16755	AA
ENGINE BLOCK (1), GASOLINE	60443	AB
GUIDE, ENGINE POPPET VALVE TAPPET	60557	NA

A cylindrically shaped metallic item designed to provide a wear surface and maintain alignment of a tappet for a VALVE, POPPET, ENGINE. It may have a flange(s) and/or groove(s).

GUIDE, VALVE STEM	32562	EA

A replaceable cylindrical item designed to provide wear surface and maintain alignment of a reciprocating valve stem and the like, it may have a flange(s) and/or grooves.

LOCK, VALVE SPRING RETAINER	15883	HA

A metal item designed for the purpose of securing an engine or compressor valve and positioning the valve spring or valve spring retainer. Excludes cotter pins, straight pins, keys and washers.

Piston

1. A cylindrical piece which moves or reciprocates in a cylinder, either under fluid pressure, as in engines, or to displace or compress a fluid as in pumps and compressors.

PISTON (1), INTERNAL COMBUSTION ENGINE	16509	CA
PUSH ROD, ENGINE POPPET VALVE	22102	GA

A tubular or solid item, specifically designed to transmit intermittent motion from the engine poppet valve tappet to the engine poppet valve rocker arm.

ROLLER, LINEAR-ROTARY MOTION	28215	KA

A cylindrical body having a centrally located hole to accommodate a pin or shaft for attachment to a push rod guide, yoke, rocker arm, turntable, or rail. The item provides a rolling contact with the face of a valve stem, or the lobes of a cam ring or camshaft on engines, fuel injection pumps, latches, turntables, parallel bearing surfaces requiring a roller support, and the like. Excludes BEARING, ROLLER, CYLINDRICAL; ROLLER, ELECTRICAL SWITCH; and friction bearings. See also CAM FOLLOWER, NEEDLE BEARING.

Approved Item Name	INC	App Key
ROTOR, ENGINE POPPET VALVE	22200	JA

A spring loaded metallic device which is specifically designed to rotate the poppet valves of an internal combustion engine to prevent uneven wear and/or distortion of the valve seating surface. See also SEAT, HELICAL COMPRESSION SPRING.

SCREW, ADJUSTING, VALVE TAPPET	33266	MA

An externally threaded screw-like device with a hexagon, square, slotted or any other type drive end. The other end may have a spherical ball, socket or other type of machined surface. It may have a concentric hole along the longitudinal centerline and a hole perpendicular to the axis joining the concentric hole for lubrication. It is specifically designed to be used as a means for adjusting engine poppet valve tappet clearances and may be furnished with a lock nut.

TAPPET, ENGINE POPPET VALVE	22199	FA

A cylindrically shaped metal item designed to transmit intermittent motion from the cam lobe on a shaft or cam ring, to the engine poppet valve. It may be mechanically or hydraulically operating, and may include adjusting devices.

APPLICABILITY KEY INDEX

	AA	AB
NAME	X	X
AAXZ	X	X
AWXE	X	X
ADVR	AR	AR
ABXV	X	X
AMWL	X	AR
AXCQ	X	AR
AXCW	X	AR
CTNY	X	AR
CTPB	X	AR
BPPQ	X	X
BFMF	X	X
AXCZ	X	X
AXDA	X	AR
AXDK	X	AR
BPPR	X	AR
AXDS	X	AR
AXDT	AR	AR
AKYD	X	AR
FEAT	AR	AR
TEST	AR	AR
SPCL	AR	AR
ZZZK	AR	AR
ZZZT	AR	AR
ZZZW	AR	AR
ZZZX	AR	AR
ZZZY	AR	AR
CRTL	AR	AR
PRPY	AR	AR
ENAC	AR	AR
ELRN	AR	AR
ELCD	AR	AR
CBME	AR	AR
SUPP	AR	AR
AGAV	AR	AR
ZZZV	AR	AR
CXCY	AR	AR

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SURF	AR	AR
APGF	X	X
STYL	X	X
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ABHP	AR	AR
ABKU	AR	AR
ABND	AR	AR
ABPA	AR	AR
ABPY	AR	AR
ABQA	AR	AR
ABXV	AR	AR
ADAQ	AR	AR
ADAR	AR	AR
AHTC	AR	AR
BPPY	AR	AR
BPPZ	AR	AR
BPQB	AR	AR
BPQC	AR	AR
BQBD	AR	AR
BPPS	X	AR
BPPT	X	AR
AAZP	AR	AR
AATE	AR	AR
BPPW	X	AR
AYSM	AR	AR
AYSK	AR	AR
BPPX	X	AR
AEJZ	AR	AR
ABGL	AR	AR
BQBF	X	AR
AQXM	AR	AR
BQBH	AR	AR
AAUB	AR	AR
BQBJ	AR	AR
BQBG	AR	AR
BQBK	AR	AR
CBBL	AR	AR
FEAT	AR	AR
TEST	AR	AR
SPCL	AR	AR
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ZZZY	AR	AR
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AASK	X
AXFT	X
AXFX	X
AXFW	AR
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AXFZ	X
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AXGB	X
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AXGD	X
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AXGE	AR
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AXPK	X
AXPL	X
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AXPM	X
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AXPP	X
AXPQ	X
AXPR	X
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TEST	AR
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BRNL	AR
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BQDB	X
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BQSJ	AR
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AYRZ	AR
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AAWZ	AR
FEAT	AR
TEST	AR
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ZZZT	AR
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PRPY	AR
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STYL	X
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AAWY	AR
AAWZ	AR
AAXC	AR
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ADBN	AR
AHXE	AR
AJEF	AR
AJFL	AR
AKYX	AR
ALAD	AR
ASDB	AR
BRGT	AR
BRNM	AR
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BRNP	AR
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BRNR	AR
BRNS	AR
BRNT	AR
BRNW	AR
BRNX	AR
BRNY	AR
BRNZ	AR
BRPB	AR
BRPC	AR
BRPD	AR
BRPF	AR
BRPG	AR
BRPH	AR
BRPJ	AR
BRPK	AR
BRPL	AR
BRPM	AR
ATZG	AR
APCS	X
BQSG	AR
ABUJ	AR
AJYP	AR
AJYR	AR
AAJF	AR
ALJP	X
AXFS	AR
FEAT	AR
TEST	AR

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BQSZ	X
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AAZP	AR
ABPA	AR
ABPC	AR
ABPR	AR
ABPS	AR
ABPT	AR
ABPU	AR
AXMB	AR
BNKG	AR
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BQTD	AR
BQTF	AR
AATE	AR
AJGE	X
FEAT	AR
TEST	AR
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ZZZX	AR
ZZZY	AR
CRTL	AR
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ATLF	AR
AXMB	AR
AYTY	AR
BBKY	AR
BNKG	AR
BQTD	AR
ABET	AR
ABUJ	X
BZRR	X
AAJD	X
AAJF	X
CTTC	X
FEAT	AR
TEST	AR
SPCL	AR
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ZZZT	AR
ZZZW	AR
ZZZX	AR
ZZZY	AR
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ELRN	AR
ELCD	AR
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SUPP	AR
AGAV	AR
ZZZV	AR
CXCY	AR

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SURF	AR
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BPPY	AR
BRQF	AR
BRQL	AR
AFEW	X
ABUJ	AR
AJYP	AR
AAJF	AR
FEAT	AR
TEST	AR
SPCL	AR
ZZZK	AR
ZZZT	AR
ZZZW	AR
ZZZX	AR
ZZZY	AR
CRTL	AR
PRPY	AR
ENAC	AR
ELRN	AR
ELCD	AR
CBME	AR
SUPP	AR
AGAV	AR
ZZZV	AR
CXCY	AR

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BPPQ	AR
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ABMK	X
CZGR	X
ABTJ	X
CBBL	AR
FEAT	AR
TEST	AR
SPCL	AR
ZZZK	AR
ZZZT	AR
ZZZW	AR
ZZZX	AR
ZZZY	AR
CRTL	AR
PRPY	AR
ENAC	AR
ELRN	AR
ELCD	AR
CBME	AR
SUPP	AR
AGAV	AR
ZZZV	AR
CXCY	AR

[Page Break]

Body

SECTION: A

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED16755*)

ALL			
	AAXZ	A	CYLINDER QUANTITY

Definition: THE NUMBER OF CYLINDERS INCORPORATED IN THE ITEM.

Reply Instructions: Enter the quantity. (e.g., AAXZA12*)

ALL			
	AWXE	D	CYLINDER ARRANGEMENT

Definition: THE ARRANGEMENT OF THE CYLINDERS.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AWXEDAAE*)

REPLY CODE	REPLY (AM47)
AAB	HORIZONTAL OPPOSED W/HORIZONTAL CRANKSHAFT
AAC	HORIZONTAL OPPOSED W/VERTICAL CRANKSHAFT
AAD	RADIAL SINGLE ROW
AAE	SINGLE V-TYPE
AAF	STRAIGHT IN-LINE
AAG	VERTICAL SINGLE CYLINDER

APP Key	MRC	Mode Code	Requirements

NOTE FOR MRC ADVR: IF REPLY CODE AAE IS ENTERED FOR MRC AWXE, REPLY TO MRC ADVR.

ALL* (See Note Above)

ADVR B ANGLE IN DEG

Definition: THE ANGLE FORMED BY THE ANGULAR PORTION OF THE ITEM, EXPRESSED IN DEGREES.

Reply Instructions: Enter the numeric value. (e.g., ADVRB60.0*)

ALL

ABXV J BORE DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF A CIRCULAR BORE, AND TERMINATES AT THE CIRCUMFERENCE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABXVJAA8.500*; ABXVJLA215.9*; ABXVJAB8.450$$JAC8.550*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

AA, AB*

AMWL J STROKE LENGTH

Definition: A MEASUREMENT OF THE LONGEST DIMENSION OF THE STROKE, IN DISTINCTION FROM WIDTH.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AMWLJAA10.000*; AMWLJLA254.0*; AMWLJAB9.975$$JAC10.025*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

AA, AB*

AXCQ A STROKES PER CYCLE

Definition: THE NUMBER OF STROKES REQUIRED TO COMPLETE ONE CYCLE.

Reply Instructions: Enter the quantity. (e.g., AXCQA4*)

AA, AB*

AXCW G BRAKE HORSEPOWER AT SPECIFIED RPM

Definition: THE POWER DELIVERED BY THE ITEM AT SPECIFIED REVOLUTIONS PER MINUTE.

Reply Instructions: Enter the reply in clear text. (e.g., AXCWG230 BRAKE HORSEPOWER AT 1500 RPM*)

AA, AB*

CTNY J BRAKE POWER RATING

Definition: THE BRAKE POWER DELIVERED BY THE ITEM FOR A SPECIFIC APPLICATION AT A SPECIFIC SPEED.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the numeric value. (e.g., CTNYJL230.0*; CTNYJH230.0*)

APP Key	MRC	Mode Code	Requirements

REPLY CODE	REPLY (AC33)
H	HORSE POWER
L	KILOWATTS
W	WATTS

AA, AB*

CTPB A BRAKE POWER RATING SPECIFIED RPM

Defintion: THE SPECIFIED REVOLUTIONS PER MINUTE AT WHICH THE BRAKE POWER RATING IS DETERMINED.

Reply Instructions: Enter the numeric value. (e.g., CTPBA1800*)

ALL

BPPQ D VALVE ARRANGEMENT FOR WHICH DESIGNED

Definition: THE VALVE ARRANGEMENT FOR WHICH THE ITEM IS DESIGNED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BPPQDASN*)

REPLY CODE	REPLY (AK54)
BRG	F
BRH	I
ASN	L
BRJ	T

ALL

BFMF D COOLING METHOD

Definition: THE METHOD OF COOLING USED TO MAINTAIN THE REQUIRED OPERATING TEMPERATURE OF THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BFMFDAAQ*)

REPLY CODE	REPLY (AN05)
AAR	AIR
AAQ	LIQUID

APP Key	MRC	Mode Code	Requirements

ALL

AXCZ D DIRECT RAW WATER COOLING FEATURE

Definition: AN INDICATION OF WHETHER OR NOT A DIRECT RAW WATER COOLING FEATURE IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXCZDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

AA, AB*

AXDA D CLOSED SYSTEM HULL COOLING FEATURE

Definition: AN INDICATION OF WHETHER OR NOT A CLOSED SYSTEM HULL COOLING FEATURE IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXDADB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

AA, AB*

AXDK D CRANKSHAFT ROTATION DIRECTION

Definition: THE CRANKSHAFT ROTATION DIRECTION VIEWED FROM AND FACING THE MAIN DRIVING END.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXDKDA*)

REPLY CODE	REPLY (AB50)
A	CLOCKWISE
D	COUNTERCLOCKWISE

APP Key	MRC	Mode Code	Requirements

AA, AB*

BPPR D SUPERCHARGER USAGE FEATURE

Definition: AN INDICATION OF WHETHER OR NOT THE ITEM PROVIDES FOR USE OF A SUPERCHARGER.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BPPRDB*)

REPLY CODE	REPLY (AB22)
C	NOT PROVIDED
B	PROVIDED

AA, AB*

AXDS D FLYWHEEL

Definition: AN INDICATION OF WHETHER OR NOT A FLYWHEEL IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXDSDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

NOTE FOR MRC AXDT: IF REPLY CODE B IS ENTERED FOR MRC AXDS, REPLY TO MRC AXDT.

AA*, AB* (See Note Above)

AXDT D FLYWHEEL HOUSING

Definition: AN INDICATION OF WHETHER OR NOT THE FLYWHEEL HOUSING IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXDTDB*)

APP Key	MRC	Mode Code	Requirements

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

AA, AB*

AKYD G ACCESSORY COMPONENTS AND QUANTITY

Definition: THE NAME AND NUMBER OF PARTS SUPPLIED WITH THE ITEM WHICH MAY BE REQUIRED FOR APPLICATION.

Reply Instructions: Enter the reply in clear text. (e.g., AKYDGCAMSHAFT, 1*)

SECTION: B

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED16756*)

ALL			
	MATL	D	MATERIAL

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDST0000*)

ALL			
	AETC	J	METALLIC HARDNESS RATING

Definition: A NUMERIC VALUE THAT REFLECTS THE HARDNESS OF A METALLIC ITEM WHEN USED IN CONJUNCTION WITH A HARDNESS RATING SCALE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AETCJARC20.3*; AETCJBRC20.3$$JCRC25.5*)

For items that do not require a rating, change the Mode Code to K and enter Reply Code N. (e.g., AETCKN*)

Table 1

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

Table 2

REPLY CODE	REPLY (AC26)
BS	BRINELL STANDARD
RB	ROCKWELL B

APP Key	MRC	Mode Code	Requirements
		RC	ROCKWELL C
		RJ	ROCKWELL STANDARD

ALL*

SURF	D	SURFACE TREATMENT

Definition: CONSISTS OF PLATING, DIP, AND/OR COATING THAT CANNOT BE WIPED OFF. PLATING AND/OR COATING IS ANY CHEMICAL AND/OR METALLIC ADDITIVE, ELECTROCHEMICAL, OR MILD MECHANICAL PROCESS WHICH PROTECTS A SURFACE.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 2. (e.g., SURFDABA000*; SURFDABA000$$DBA0000*; SURFDABA000$DBA0000*)

ALL

APGF	D	DESIGN TYPE

Definition: INDICATES THE DESIGN TYPE OF THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., APGFDADA*)

REPLY CODE	REPLY (AK54)
ADA	DRY
ADC	WET

ALL

STYL	L	STYLE DESIGNATOR

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE ITEM.

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group A. (e.g., STYLLA4*)

BA, BB*

BPPS	D	VALVE RECESS

APP Key	MRC	Mode Code	Requirements

Definition: AN INDICATION OF WHETHER OR NOT A VALVE RECESS(ES) IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BPPSDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

BA, BB*

BPPT D TOP INSIDE CHAMFER

Definition: AN INDICATION OF WHETHER OR NOT A TOP INSIDE CHAMFER IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BPPTDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

NOTE FOR MRCS AAZP AND AATE: IF REPLY CODE B IS ENTERED FOR MRC BPPT, Reply TO MRCS AAZP AND AATE.

BA*, BB* (See Note Above)

AAZP J CHAMFER LENGTH

Definition: A MEASUREMENT OF THE LONGEST DIMENSION OF THE CHAMFER, IN DISTINCTION FROM WIDTH.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AAZPJAA0.094*; AAZPJLA2.4*; AAZPJAB0.092$$JAC0.096*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

APP Key	MRC	Mode Code	Requirements

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

BA*, BB* (See Note Preceding MRC AAZP)

AATE B CHAMFER ANGLE IN DEG

Definition: THE MEASUREMENT OF THE CHAMFER ANGLE, EXPRESSED IN DEGREES.

Reply Instructions: Enter the numeric value. (e.g., AATEB45.0*)

BA, BB*

BPPW D BOTTOM INSIDE CHAMFER

Definition: AN INDICATION OF WHETHER OR NOT A BOTTOM INSIDE CHAMFER IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BPPWDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

NOTE FOR MRCS AYSM AND AYSK: IF REPLY CODE B IS ENTERED FOR MRC BPPW, REPLY TO MRCS AYSM AND AYSK.

BA*, BB* (See Note Above)

AYSM J BOTTOM CHAMFER LENGTH

Definition: A MEASUREMENT OF THE LONGEST DIMENSION OF THE BOTTOM CHAMFER, IN DISTINCTION FROM WIDTH.

APP
Key MRC Mode Code Requirements

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AYSMJAA0.046*; AYSMJLA1.2*; AYSMJAB0.044$$JAC0.048*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

BA*, BB* (See Note Preceding MRC AYSM)

AYSK B BOTTOM CHAMFER ANGLE IN DEG

Definition: THE ANGLE OF THE BOTTOM CHAMFER, EXPRESSED IN DEGREES.

Reply Instructions: Enter the numeric value. (e.g., AYSKB10.0*)

BA, BB*

BPPX D TOP INTAKE PORT

Definition: AN INDICATION OF WHETHER OR NOT A TOP INTAKE PORT IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BPPXDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

NOTE FOR MRCS AEJZ AND ABGL: IF REPLY CODE B IS ENTERED FOR MRC BPPX, REPLY TO MRCS AEJZ AND ABGL.

BA*, BB* (See Note Above)

APP Key	MRC	Mode Code	Requirements
	AEJZ	J	DEPTH

Definition: A LINEAR MEASUREMENT FROM THE SURFACE TO A SPECIFIED INNER POINT ON AN ITEM, IN DISTINCTION FROM HEIGHT.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AEJZJAA0.875*; AEJZJLA22.2*; AEJZJAB0.865$$JAC0.885*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

BA*, BB* (See Note Preceding MRC AEJZ)

	ABGL	J	WIDTH

Definition: A MEASUREMENT TAKEN AT RIGHT ANGLES TO THE LENGTH OF AN ITEM, IN DISTINCTION FROM THICKNESS.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABGLJAA1.313*; ABGLJLA33.3*; ABGLJAB1.310$$JAC1.320*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

BA, BB*

APP Key	MRC	Mode Code	Requirements
	BQBF	D	INTAKE HOLE

Definition: AN INDICATION OF WHETHER OR NOT AN INTAKE HOLE(S) IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQBFDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

NOTE FOR MRCS AQXM, BQBH, AAUB, BQBJ, AND BQBG: IF REPLY CODE B IS ENTERED FOR MRC BQBF, REPLY TO MRCS AQXM, BQBH, AAUB, BQBJ, AND BQBG.

BA*, BB* (See Note Above)

AQXM	A	ROW QUANTITY

Definition: THE NUMBER OF ROWS IN AN ITEM.

Reply Instructions: Enter the quantity. (e.g., AQXMA2*)

BA*, BB* (See Note Preceding MRC AQXM)

BQBH	A	HOLE QUANTITY PER ROW

Definition: THE NUMBER OF HOLES IN EACH ROW.

Reply Instructions: Enter the quantity. (e.g., BQBHA32*)

BA*, BB* (See Note Preceding MRC AQXM)

AAUB	J	HOLE DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF A HOLE, AND TERMINATES AT THE CIRCUMFERENCE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AAUBJAA0.438*; AAUBJLA11.1*; AAUBJAB0.436$$JAC0.440*)

Table 1

REPLY CODE	REPLY (AA05)

APP Key	MRC	Mode Code	Requirements
		A	INCHES
		L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

BA*, BB* (See Note Preceding MRC AQXM)

BQBJ	J	DISTANCE FROM TOP TO CENTER OF FIRST ROW

Definition: THE DISTANCE FROM THE TOP OF ITEM TO THE CENTER OF THE FIRST ROW.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BQBJJAA5.250*; BQBJJLA133.4*; BQBJJAB5.240$$JAC5.260*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

BA*, BB* (See Note Preceding MRC AQXM)

BQBG	J	HOLE CENTER TO CENTER DISTANCE BETWEEN ROWS

Definition: THE HOLE CENTER TO CENTER DISTANCE BETWEEN ROWS.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BQBGJAA0.500*; BQBGJLA12.7*; BQBGJAB0.490$$JAC0.510*)

APP Key	MRC	Mode Code	Requirements

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL*

BQBK J CONNECTING ROD CLEARANCE DEPTH

Definition: A MEASUREMENT OF THE CONNECTING ROD CLEARANCE DEPTH.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BQBKJAA0.500*; BQBKJLA12.7*; BQBKJAB0.490$$JAC0.510*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL*

CBBL D FEATURES PROVIDED

Definition: THOSE FEATURES, NOT OTHERWISE SPECIFIED, WHICH MAY BE REQUIRED FOR PROPER FUNCTIONING OF THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., CBBLDBQN*; CBBLDBQN$$DALX*)

FIIG T
Section Parts

APP Key	MRC	Mode Code	Requirements
		REPLY CODE	REPLY (AN47)
		AEQ	CASEHARDENED
		BQN	GASKET
		DPB	PISTON PIN
		DPC	PISTON RING
		ALX	SEAL

SECTION: C

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED16509*)

ALL			
	MATL	D	MATERIAL

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDALC000*; MATLDAL0000$$DBR0000*; MATLDAL0000$DBR0000*)

ALL			
	ABMZ	J	DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF A CIRCULAR FIGURE OR BODY, AND TERMINATES AT THE CIRCUMFERENCE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABMZJAA0.020*; ABMZJLA0.5*; ABMZJAB0.019$$JAC0.021*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

APP Key	MRC	Mode Code	Requirements

ALL

ABKW J OVERALL HEIGHT

Definition: THE DISTANCE MEASURED IN A STRAIGHT LINE FROM THE BOTTOM TO THE TOP OF AN ITEM.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABKWJAA4.375*; ABKWJLA111.1*; ABKWJAB4.365$$JAC4.385*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

AGYE D SURFACE FINISH

Definition: AN ADDITIONAL FINISHING PROCESS BY WHICH THE SURFACE OF AN ITEM IS ALTERED IN RESPECT TO POLISHING, GRINDING, AND THE LIKE.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AGYEDAL*)

REPLY CODE	REPLY (AA41)
AL	FINISHED
AM	SEMIFINISHED

NOTE FOR MRC AXFR: IF REPLY CODE AL IS ENTERED FOR MRC AGYE, REPLY TO MRC AXFR.

ALL* (See Note Above)

APP Key	MRC	Mode Code	Requirements
	AXFR	D	FINISHED SIZE DESIGNATION

Definition: THE FINISHED SIZE BY WHICH THE ITEM IS COMMERCIALLY KNOWN AND DESIGNATED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXFRDG*)

REPLY CODE	REPLY (AE25)
H	OVERSIZE
G	STANDARD

NOTE FOR MRC AXFS: IF REPLY CODE H IS ENTERED FOR MRC AXFR, REPLY TO MRC AXFS.

ALL* (See Note Above)

	AXFS	J	OVERSIZE

Definition: THE MEASURED AMOUNT OF THE OVERSIZE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AXFSJAA0.020*; AXFSJLA0.5*; AXFSJAB0.019$$JAC0.021*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL*

	SURF	D	SURFACE TREATMENT

APP Key	MRC	Mode Code	Requirements

Definition: CONSISTS OF PLATING, DIP, AND/OR COATING THAT CANNOT BE WIPED OFF. PLATING AND/OR COATING IS ANY CHEMICAL AND/OR METALLIC ADDITIVE, ELECTROCHEMICAL, OR MILD MECHANICAL PROCESS WHICH PROTECTS A SURFACE.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 2. (e.g., SURFDCDR000*; SURFDCDR000$DZNN000*)

ALL

WGHT J WEIGHT

Definition: A RELATIVE MEASURE OF THE MASS OF AN ITEM WITH RESPECT TO ITS DENSITY.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the numeric value. Exclude the weight of piston rings and piston pin. (e.g., WGHTJU42.0*; WGHTJK1.1*)

REPLY CODE	REPLY (AB10)
K	KILOGRAMS
U	OUNCES

ALL

AASK L HEAD STYLE

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE HEAD.

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group B. (e.g., AASKLB4*)

ALL

AXFT D SKIRT TYPE

Definition: INDICATES THE TYPE OF SKIRT INCLUDED ON THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXFTDNC*)

REPLY CODE	REPLY (AE98)
NC	FULL SPLIT

APP Key	MRC	Mode Code	Requirements
		ND	SEMISPLIT
		AW	SOLID

ALL

AXFX D SKIRT BOTTOM CUTAWAY FEATURE

Definition: AN INDICATION OF WHETHER OR NOT A SKIRT BOTTOM CUT AWAY FEATURE IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXFXDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

NOTE FOR MRC AXFW: IF REPLY CODE B IS ENTERED FOR MRC AXFX, REPLY TO MRC AXFW.

ALL* (See Note Above)

AXFW J CUT DEPTH

Definition: A MEASUREMENT BETWEEN SPECIFIED POINTS OF A CUT IN DISTINCTION FROM HEIGHT.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AXFWJAA0.750*; AXFWJLA19.1*; AXFWJAB0.745$$JAC0.755*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

APP Key	MRC	Mode Code	Requirements
ALL*			
	CXSP	L	SKIRT SLOT STYLE

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE SKIRT SLOT.

Reply Instructions: Enter the applicable style number from Appendix B , Reference Drawing Group C. (e.g., CXSPLC4*)

ALL			
	AXFZ	A	RING GROOVE QUANTITY

Definition: THE NUMBER OF RING GROOVES INCLUDED ON THE ITEM.

Reply Instructions: Enter the quantity. (e.g., AXFZA3*)

.NOTE FOR MRCS AXGB, AXGC, AXGD, ACXM, AND AXGE: USE IDENTIFIED SECONDARY ADDRESS CODING (I/SAC) TO REPLY TO EACH DIFFERENT RING GROOVE, LISTING REPLIES IN ASCENDING SEQUENCE BY POSITION DESIGNATION NUMBER. EXCLUDE CARBON AND/OR OIL GROOVES WHICH DO NOT RECEIVE RINGS.

ALL (See Note Above)			
	AXGB	J	RING GROOVE WIDTH

Definition: A MEASUREMENT TAKEN AT RIGHT ANGLES TO THE LENGTH OF A RING GROOVE, IN DISTINCTION FROM THICKNESS.

Reply Instructions: Enter the applicable I/SAC Reply Code from Table 1 below, followed by the Mode Code, followed by the applicable Reply Codes from Tables 2 and 3 below, followed by the numeric value. (e.g., AXGB1YJAA0.0906*; AXGB1ZJLA2.38*)

If a tolerance is given with multiple rings, use Identified Secondary Address Coding (I/SAC) with AND coding ($$). (e.g.,

AXGB1AJAB0.0945$$JAC0.0955*

APP Key	MRC	Mode Code	Requirements

AXGB1BJAB0.0700$$JAC0.0710*)

Table 1

REPLY CODE	REPLY (0349)
1Z	ALL RINGS
1Y	SINGLE RING
1A	1ST RING
1B	2ND RING
1C	3RD RING
1D	4TH RING
1E	5TH RING
1F	6TH RING
1G	7TH RING
1H	8TH RING
1J	9TH RING
1K	10TH RING

Table 2

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 3

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL (See Note Preceding MRC AXGB)*

AXGC G GROOVE TAPER ANGLE

Definition: THE ANGLE OF A TAPERED GROOVE.

Reply Instructions: Enter the I/SAC Reply Code from the Table below, followed by the Mode Code, followed by the applicable reply in clear text. (e.g., AXGC1ZG7 DEG 26 MIN PORM 15 MIN ALL GROOVES; AXGC1AG14 DEG 50 MIN PORM 10 MIN NO. 1 GROOVE*; AXGC1CG7 DEG PORM 15 MIN NO. 3 GROOVE*)*

REPLY CODE	*REPLY (0349)*
1Z	*ALL RINGS*
1Y	*SINGLE RING*
1A	*1ST RING*
1B	*2ND RING*
1C	*3RD RING*

1D	*4TH RING*
1E	*5TH RING*
1F	*6TH RING*
1G	*8TH RING*
1H	*8TH RING*
1J	*9TH RING*
1K	*10TH RING*

ALL (See Note Preceding MRC AXGB)

AXGD J RING GROOVE DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF A RING GROOVE, AND TERMINATES AT THE CIRCUMFERENCE.

Reply Instructions: Enter the applicable I/SAC Reply Code from Table 1 below, followed by the Mode Code, followed by the applicable Reply Codes from Tables 2 and 3 below, followed by the numeric value. (e.g., AXGD1ZJAA2.215*; AXGD1AJLA56.3*)

If a tolerance is given for multiple rings, use Identified Secondary Address Coding (I/SAC) with AND coding ($$). (e.g.,

AXGD1AJAB2.090$$JAC2.110*;

AXGD1BJAB2.210$$JAC2.220*)

Table 1

REPLY CODE	REPLY (0349)
1Z	ALL RINGS
1Y	SINGLE RING
1A	1ST RING
1B	2ND RING
1C	3RD RING
1D	4TH RING
1E	5TH RING
1F	6TH RING
1G	7TH RING
1H	8TH RING
1J	9TH RING
1K	10TH RING

Table 2

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table3

REPLY CODE	REPLY (AC20)

A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL (See Note Preceding MRC AXGB)*

ACXM D OIL PASSAGE TYPE

Definition: INDICATES THE TYPE OF OIL PASSAGE INCLUDED ON THE ITEM.

Reply Instructions: Enter the applicable I/SAC Reply Code from Table 1 below, followed by the Mode Code, followed by the applicable Reply Code from Table 2 below. (e.g., ACXM1ADC; ACXM1BDC$$DD*)*

REPLY CODE

REPLY CODE	*REPLY (0349)*
1Z	*ALL RINGS*
1Y	*SINGLE RING*
1A	*1ST RING*
1B	*2ND RING*
1C	*3RD RING*
1D	*4TH RING*
1E	*5TH RING*
1F	*6TH RING*
1G	*7TH RING*
1H	*8TH RING*
1J	*9TH RING*
1K	*10TH RING*

REPLY CODE

REPLY CODE	*REPLY (AB99*
C	*HOLE*
D	*SLOT*

ALL (See Note Preceding MRC AXGB)*

AXGE G RING GROOVE POSITION BELOW PISTON PIN

Definition: THE BELOW PISTON PIN RING GROOVE POSITION ON THE ITEM.

Reply Instructions: Enter the applicable I/SAC Reply Code from the Table below, followed by the Mode Code, followed by the applicable reply in clear text. (e.g., AXGE1AGGROOVE LOCATED BELOW PISTON PIN BOSSES; AXGE1DGGROOVE LOCATED BELOW PISTON PIN HOLES*; AXGE1EGGROOVE LOCATED BELOW PISTON PIN HOLES*)*

REPLY CODE	REPLY (0349)
1Z	*ALL RINGS*
1Y	*SINGLE RING*
1A	*1ST RING*
1B	*2ND RING*
1C	*3RD RING*
1D	*4TH RING*
1E	*5TH RING*
1F	*6TH RING*
1G	*7TH RING*
1H	*8TH RING*
1J	*9TH RING*
1K	*10TH RING*

ALL

BQBL D CARBON GROOVE

Definition: AN INDICATION OF WHETHER OR NOT A CARBON GROOVE IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQBLDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

ALL

AXPH D OIL GROOVE

Definition: AN INDICATION OF WHETHER OR NOT AN OIL GROOVE(S) IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXPHDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

ALL

AXPK J DISTANCE FROM PIN HOLE CENTER TO EXTREME TOP

Definition: THE DISTANCE FROM THE CENTER OF THE PIN HOLE TO THE EXTREME TOP OF THE ITEM.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AXPKJAA1.375*; AXPKJLA34.9*; AXPKJAB1.365$$JAC1.385*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

AXPL D PIN HOLE BUSHING

Definition: AN INDICATION OF WHETHER OR NOT A PIN HOLE BUSHING(S) IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXPLDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

ALL

ACXU J PINHOLE DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF A PINHOLE, AND TERMINATES AT THE CIRCUMFERENCE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. If bushings are included, enter inside diameter of bushing. (e.g., ACXUJAA0.6251*; ACXUJLA15.88*; ACXUJAB0.6249$$JAC0.6252*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

AXPM J DISTANCE BETWEEN PIN BOSSES

Definition: THE DISTANCE BETWEEN PIN BOSSES ON AN ITEM.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AXPMJAA0.938*; AXPMJLA23.8*; AXPMJAB0.928$$JAC0.948*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

AXPN D RETAINING RING GROOVE

Definition: AN INDICATION OF WHETHER OR NOT A RETAINING RING GROOVE(S) IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXPNDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

ALL

AXPP D PIN

Definition: AN INDICATION OF WHETHER OR NOT A PIN IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXPPDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

ALL

AXPQ D PIN TYPE FOR WHICH DESIGNED

Definition: INDICATES THE TYPE OF PIN FOR WHICH THE ITEM IS DESIGNED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXPQDAEF*)

REPLY CODE	REPLY (AK54)
AEF	FLOATING
BRZ	LOCKING

ALL

AXPR D RING

Definition: AN INDICATION OF WHETHER OR NOT A RING(S) IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AXPRDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

SECTION: D

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED60266*)

ALL			
	MATL	D	MATERIAL

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDST0000*; MATLDST0000$DSTB000*)

ALL			
	AARN	D	FABRICATION METHOD

Definition: THE PROCESS USED IN MANUFACTURING THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. If no specific method of manufacturing is required, enter Reply Code A. (e.g., AARNDAN*; AARNDAJ$$DAZ*)

REPLY CODE	REPLY (AA62)
A	ANY ACCEPTABLE
AN	CAST
AJ	FORGED
AZ	MACHINED

ALL			
	AWQD	J	STRENGTH RATING

APP Key	MRC	Mode Code	Requirements

Definition: THE LOAD IN TENSION APPLIED IN A LONGITUDINAL DIRECTION OR THE LOAD THAT CAN BE APPLIED IN A PLANE PERPENDICULAR TO THE AXIAL CENTERLINE WITHOUT RUPTURE OR PERMANENT DEFORMATION OF THE MATERIAL.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AWQDJVAB34000.0*; AWQDJKAB15500.0*)

For items that do not require a rating, change the Mode Code to K and enter Reply Code N. (e.g., AWQDKN*)

Table 1

REPLY CODE	REPLY (AB18)
K	KILOGRAMS PER SQUARE CENTIMETER
S	MEGAPASCALS
R	NEWTONS PER SQUARE MILLIMETER
V	POUNDS PER SQUARE INCH

Table 2

REPLY CODE	REPLY (AM45)
AB	MINIMUM TENSILE
AC	MINIMUM YIELD

ALL

AETC J METALLIC HARDNESS RATING

Definition: A NUMERIC VALUE THAT REFLECTS THE HARDNESS OF A METALLIC ITEM WHEN USED IN CONJUNCTION WITH A HARDNESS RATING SCALE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AETCJARC34.0*; AETCJBRC32.0$$JCRC36.0*)

If a rating is not required, change the Mode Code to K and enter Reply Code N. (e.g., AETCKN*)

Table 1

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

APP Key	MRC	Mode Code	Requirements

Table 2

REPLY CODE	REPLY (AC26)
BT	BRINELL TUNGSTEN CARBIDE
RC	ROCKWELL C

NOTE FOR MRCS BRNG, BRNH, BRNJ, BRNK, AND BRNL: FOR CLARIFICATION OF MEASUREMENT LOCATIONS, SEE APPENDIX B, REFERENCE DRAWING GROUP D.

ALL (See Note above)

BRNG J CENTER TO CENTER EFFECTIVE LENGTH

Definition: A MEASUREMENT OF THE DISTANCE BETWEEN THE CENTERS OF TWO HOLES THAT DETERMINES THE EFFECTIVE LENGTH OF AN ITEM.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BRNGJAA4.375*; BRNGJLA111.1*; BRNGJAB4.365$$JAC4.385*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceeding MRC BRNG)

BRNH J BODY WIDTH AT PISTON CONNECTING END

Definition: A MEASUREMENT OF THE WIDTH OF THE BODY OF AN ITEM AT THE PISTON CONNECTING END.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BRNHJAA4.375*; BRNHJLA111.1*; BRNHJAB4.365$$JAC4.385*)

Table 1

REPLY CODE	REPLY (AA05)

APP Key	MRC	Mode Code	Requirements
		A	INCHES
		L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceeding MRC BRNG)

BRNJ J BODY WIDTH AT SHAFT CONNECTING END

Definition: A MEASUREMENT OF THE WIDTH OF THE BODY OF AN ITEM AT THE SHAFT CONNECTING END.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BRNJJAA4.375*; BRNJJLA111.1*; BRNJJAB4.365$$JAC4.385*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceeding MRC BRNG)

BRNK J BODY THICKNESS AT PISTON CONNECTING END

Definition: A MEASUREMENT OF THE THICKNESS OF THE BODY OF AN ITEM AT THE PISTON CONNECTING END.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BRNKJAA4.375*; BRNKJLA111.1*; BRNKJAB4.365$$JAC4.385*)

APP Key	MRC	Mode Code	Requirements

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceeding MRC BRNG)

BRNL J BODY THICKNESS AT SHAFT CONNECTING END

Definition: A MEASUREMENT OF THE THICKNESS OF THE BODY OF AN ITEM AT THE SHAFT CONNECTING END.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BRNLJAA4.375*; BRNLJLA111.1*; BRNLJAB4.365$$JAC4.385*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

BXYS L PISTON END CONNECTION STYLE

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE PISTON CONNECTING END.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group E. (e.g., BXYSLE3*)

ALL

BQBT D PISTON CONNECTING END BEARING

Definition: AN INDICATION OF WHETHER OR NOT A PISTON CONNECTING END BEARING IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQBTDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

NOTE FOR MRC BQBW: IF REPLY CODE B IS ENTERED FOR MRC BQBT, REPLY TO MRC BQBW.

ALL* (See Note Above)

BQBW D BEARING REPLACEABILITY

Definition: AN INDICATION OF WHETHER OR NOT THE BEARING IS REPLACEABLE.

Reply Instructions: Any bearing that is not bonded or cast integrally will be considered replaceable. Enter the applicable Reply Code from the table below. (e.g., BQBWDB*)

REPLY CODE	REPLY (AG84)
C	NONREPLACEABLE
B	REPLACEABLE

ALL

BQBY D PISTON CONNECTING END LUBRICATION DRILL FEATURE

Definition: AN INDICATION OF WHETHER OR NOT A DRILL FEATURE FOR LUBRICATION PURPOSES IS INCLUDED WITH THE PISTON CONNECTING END.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQBYDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

ALL

BQBZ D PISTON CONNECTING END LUBRICATION METHOD

Definition: THE MEANS USED TO LUBRICATE THE PISTON CONNECTING END.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQBZDGE*)

Full forced-feed type lubrication indicates the connecting rod must have an oil hole through its longitudinal axis.

REPLY CODE	REPLY (AB75)
GE	FULL FORCED-FEED
GF	OIL VAPOR
GG	SPLASH

ALL

AKEU L SHAFT CONNECTING END STYLE

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE SHAFT CONNECTING END.

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group F. (e.g., AKEULF4*)

ALL

BQCB D SHAFT CONNECTING END BEARING

APP Key	MRC	Mode Code	Requirements

Definition: AN INDICATION OF WHETHER OR NOT A SHAFT CONNECTING END BEARING IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQCBDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

NOTE FOR MRC BQCY: IF REPLY CODE B IS ENTERED FOR MRC BQCB, REPLY TO MRC BQCY.

ALL* (See Note Above)

BQCY	D	SHAFT CONNECTING END BEARING REPLACEABILITY

Definition: AN INDICATION OF WHETHER OR NOT THE SHAFT CONNECTING END BEARING IS REPLACEABLE.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQCYDB*)

REPLY CODE	REPLY (AG84)
C	NONREPLACEABLE
B	REPLACEABLE

ALL

BQCZ	D	SHAFT CONNECTING END LUBRICATION DRILL FEATURE

Definition: AN INDICATION OF WHETHER OR NOT A DRILL FEATURE FOR LUBRICATION PURPOSES IS INCLUDED WITH THE SHAFT CONNECTING END.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQCZDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED

APP Key	MRC	Mode Code	Requirements
		C	NOT INCLUDED

ALL

BQDB D SHAFT CONNECTING END LUBRICATION METHOD

Definition: THE MEANS USED TO LUBRICATE THE SHAFT CONNECTING END.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQDBDPD*)

Full forced-feed type lubrication indicates the connecting rod must have an oil hole through its longitudinal axis.

REPLY CODE	REPLY (AB75)
PD	FORCED-FEED
GE	FULL FORCED-FEED
GF	OIL VAPOR
GG	SPLASH

ALL

AAGR L CROSS-SECTIONAL SHAPE STYLE

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE CROSS-SECTIONAL SHAPE OF THE ITEM.

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group G. (e.g., AAGRLG4*)

SECTION: E

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED32562*)

ALL			
	MATL	D	MATERIAL

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDST0000*; MATLDST0000$DSTB000*)

ALL*			
	AETC	J	METALLIC HARDNESS RATING

Definition: A NUMERIC VALUE THAT REFLECTS THE HARDNESS OF A METALLIC ITEM WHEN USED IN CONJUNCTION WITH A HARDNESS RATING SCALE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AETCJBRK97.0*; AETCJBRB95.0$$JCRB100.0*)

For items that do not require a rating, change the Mode Code to K and enter Reply Code N. (e.g., AETCKN*)

Table 1

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

Table 2

REPLY CODE	REPLY (AC26)
RB	ROCKWELL B
RC	ROCKWELL C

APP Key	MRC	Mode Code	Requirements
		RF	ROCKWELL F
		RK	ROCKWELL K

ALL

STYL L STYLE DESIGNATOR

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE ITEM.

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group H. (e.g., STYLLH12*)

ALL

ABXV J BORE DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF A CIRCULAR BORE, AND TERMINATES AT THE CIRCUMFERENCE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABXVJAA0.6155*; ABXVJLA15.5*; ABXVJAB0.6145$$JAC0.6165*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

BQDC D BORE COUNTERSINK

Definition: AN INDICATION OF WHETHER OR NOT A BORE COUNTERSINK IS INCLUDED.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQDCDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

NOTE FOR MRCS BQDD, AATA, BPNY, AND AYRZ: IF REPLY CODE B IS ENTERED FOR MRC BQDC, REPLY TO MRCS BQDD, AATA, AND BPNY OR AYRZ. IF WITH COUNTERSINK ON BOTH ENDS AND THE ENDS ARE NOT IDENTICAL, USE AND CODING ($$) ENTERING REPLIES TO THE AA END FIRST.

ALL* (See Note Above)

BQDD D COUNTERSINK LOCATION

Definition: INDICATES THE LOCATION OF THE COUNTERSINK ON THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQDDDBBZ*; BQDDDBBZ$$DBCA*)

REPLY CODE	REPLY (AJ91)
BBZ	AA END
BCA	BB END

ALL* (See Note Preceding MRC BQDD)

AATA B COUNTERSINK ANGLE IN DEG

Definition: THE INCLUDED ANGLE OF THE COUNTERSINK, EXPRESSED IN DEGREES.

Reply Instructions: Enter the numeric value. (e.g., AATAB30.0*; AATAB30.0$$B40.0*)

ALL* (See Note Preceding MRC BQDD)

BPNY J COUNTERSINK LENGTH

Definition: A MEASUREMENT OF THE LONGEST DIMENSION OF THE COUNTERSINK, IN DISTINCTION FROM WIDTH.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BPNYJAA0.625*; BPNYLA15.9*; BPNYJAA0.625$$JAA0.750*)

If a tolerance is given with multiple replies, use AND coding ($$). (e.g., BPNYJAB0.620$$JAC0.630$$JAB0.745$$JAC0.755*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceding MRC BQDD)

AYRZ J COUNTERSINK DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF THE COUNTERSINK, AND TERMINATES AT THE CIRCUMFERENCE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AYRZJAA0.375*; AYRZJLA9.5*; AYRZJAA0.375$$JAA0.415*)

If a tolerance is given with multiple replies, use AND coding ($$). (e.g., AYRZJAB0.370$$JAC0.380$$JAB0.410$$JAC0.420*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

APP Key	MRC	Mode Code	Requirements

ALL

BQSF D BORE COUNTERBORE

Definition: AN INDICATION OF WHETHER OR NOT A BORE COUNTERBORE IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQSFDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

NOTE FOR MRCS BDYS, AAWY, AND AAWZ: IF REPLY CODE B IS ENTERED FOR MRC BQSF, REPLY TO MRCS BDYS, AAWY, AND AAWZ. IF WITH COUNTERBORE ON BOTH ENDS AND THE ENDS ARE NOT IDENTICAL, USE AND CODING ($$), ENTERING REPLIES TO THE AA END FIRST.

ALL* (See Note Above)

BDYS D COUNTERBORE LOCATION

Definition: INDICATES THE LOCATION OF THE COUNTERBORE ON THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BDYSDBBZ*; BDYSDBBZ$$DBCA*)

REPLY CODE	REPLY (AJ91)
BBZ	AA END
BCA	BB END

ALL* (See Note Preceding MRC BDYS)

AAWY J COUNTERBORE DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF A COUNTERBORED PORTION OF A HOLE, AND TERMINATES AT THE CIRCUMFERENCE.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AAWYJAA0.399*; AAWYJLA10.0*; AAWYJAA0.400$$JAA0.450*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceding MRC BDYS)

AAWZ J COUNTERBORE DEPTH

Definition: THE DEPTH OF THE PROCESS USED TO ENLARGE PART OF A HOLE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AAWZJAA0.438*; AAWZJLA11.1*; AAWZJAA0.438$$JAA0.500*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

SECTION: F

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED22199*)

ALL			
	APHE	D	OPERATION METHOD

Definition: THE MEANS USED TO OPERATE THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., APHEDHC*)

REPLY CODE	REPLY (AC58)
HC	HYDRAULIC
CT	MECHANICAL

ALL			
	ANNQ	H	MATERIAL AND LOCATION

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH THE ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT, AND ITS LOCATION.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1 , followed by the applicable Reply Code from the table below. For different materials and/or locations, use AND/OR ($$/$) Coding, entering replies for each material and/or location beginning with the cam end. (e.g., ANNQHST0000ABQ*; ANNQHST0000BRM$$HZNL000BRM$$HST0000ABQ$HSTB000ABQ*)

If no location is indicated for the material, enter Reply Code AAB from the table below.

REPLY CODE	REPLY (AJ91)
ABQ	BODY
BRM	CAM END

APP Key	MRC	Mode Code	Requirements
		BSF	CUP
		BPL	INSERT
		AAB	OVERALL
		BSG	ROD END
		BPM	SCREW
		ALC	STEM

ALL

ASXJ J METALLIC HARDNESS RATING AND LOCATION

Definition: A NUMERIC VALUE, USED IN CONJUNCTION WITH A HARDNESS RATING SCALE, DESIGNATING THE METALLIC HARDNESS RATING AND ITS LOCATION.

Reply Instructions: Enter the applicable Reply Codes from Tables 1, 2, and 3 below, followed by the numeric value. If different hardness ratings are indicated for different location, use AND/OR ($$/$) Coding entering replies for each location, beginning with the cam end. (e.g., ASXJJRCAABQ35.0*; ASXJJRCBBRM55.0$$JRCBABQ40.0*)

If a tolerance is given with multiple locations, use AND coding ($$). (e.g., ASXJJRCBBRM40.0$$JRCCBRM50.0$$JRCBBSF30.0$$JRCCBSF40.0*)

Table 1

REPLY CODE	REPLY (AC26)
RC	ROCKWELL C
RD	ROCKWELL D

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

Table 3

REPLY CODE	REPLY (AJ91)
ABQ	BODY
BRM	CAM END
BSF	CUP
ACY	FACE
AAB	OVERALL
ANS	REMAINING PORTION
BSH	SCREW HEAD
BSJ	SCREW THREAD

APP Key	MRC	Mode Code	Requirements

ALL

AASG D CASEHARDENING INDICATOR

Definition: INDICATES WHETHER OR NOT A FERROUS ALLOY OBJECT HAS BEEN SUBJECTED TO A PROCESS WHEREBY THE OUTER PORTION IS MADE SUBSTANTIALLY HARDER THAN THE INNER PORTION OR CORE.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AASGDB*)

REPLY CODE	REPLY (AA70)
A	CASEHARDENED
B	NOT CASEHARDENED

NOTE FOR MRC ALWP: IF REPLY CODE A IS ENTERED FOR MRC AASG, REPLY TO MRC ALWP.

ALL* (See Note Above)

ALWP D CASEHARDENED LOCATION

Definition: INDICATES THE LOCATION OF AN ITEM WHICH IS CASEHARDENED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., ALWPDBRM*; ALWPDBRM$$DAKZ*)

REPLY CODE	REPLY (AJ91)
BRM	CAM END
AKZ	HEAD
AAB	OVERALL

ALL

STYL L STYLE DESIGNATOR

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE ITEM.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group J. (e.g., STYLLJ4*)

ALL

APCS D ADJUSTABILITY

Definition: AN INDICATION OF WHETHER OR NOT THE ITEM IS ADJUSTABLE.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., APCSDA*)

REPLY CODE	REPLY (AB00)
A	ADJUSTABLE
C	NONADJUSTABLE

NOTE FOR MRC BQSG: IF REPLY CODE A IS ENTERED FOR MRC APCS, REPLY TO MRC BQSG.

ALL* (See Note Above)

BQSG D ADJUSTING DEVICE

Definition: AN INDICATION OF WHETHER OR NOT AN ADJUSTING DEVICE IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQSGDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

NOTE FOR MRCS ABUJ, AJYP, AJYR, AND AAJF: IF REPLY CODE C IS ENTERED FOR MRC BQSG, REPLY TO MRCS ABUJ, AJYP, AJYR, AND AAJF.

ALL* (See Note Above)

ABUJ A THREAD SIZE

APP Key	MRC	Mode Code	Requirements

Definition: DESIGNATES THE THREAD DIAMETER AND NUMBER OF THREADS PER SPECIFIC MEASUREMENT SCALE.

Reply Instructions: Enter the thread size.

(e.g., ABUJA3/8-24*;

ABUJA1-11-1/2*)

ALL* (See Note Preceding MRC ABUJ)

AJYP D SCREW THREAD SERIES DESIGNATOR

Definition: A DESIGNATION DISTINGUISHING ONE GROUP OF SCREW THREAD DIAMETER-PITCH COMBINATIONS FROM ANOTHER BY THE NUMBER OF THREADS PER MEASUREMENT SCALE FOR A SPECIFIC DIAMETER.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AJYPDNF*)

REPLY CODE	REPLY (AH06)
SM	ISO M
SS	ISO S
SW	SAE
NC	UNC
NF	UNF

ALL* (See Note Preceding MRC ABUJ)

AJYR J SCREW THREAD LENGTH

Definition: A MEASUREMENT OF THE EXTENT OF SCREW THREADS, INCLUDING INCOMPLETE SCREW THREADS, ALONG A LINE PARALLEL TO THE LONGITUDINAL THREAD AXIS.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AJYRJAA0.750*; AJYRJLA19.1*; AJYRJAB0.740$$JAC0.760*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

APP Key	MRC	Mode Code	Requirements

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceding MRC ABUJ)

AAJF D THREAD DIRECTION

Definition: THE DIRECTION OF THE THREAD WHEN VIEWED AXIALLY. A RIGHT-HAND THREAD WINDS IN A CLOCKWISE DIRECTION WHILE A LEFT-HAND THREAD WINDS IN A COUNTERCLOCKWISE DIRECTION.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AAJFDL*)

REPLY CODE	REPLY (AA38)
L	LEFT-HAND
R	RIGHT-HAND

ALL

ALJP D SIZE DESIGNATION

Definition: A DESIGNATION INDICATING THE SIZE BY WHICH THE ITEM IS COMMERCIALLY KNOWN AND/OR IDENTIFIED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., ALJPDAXH*)

REPLY CODE	REPLY (AF81)
AXH	OVERSIZE
CJJ	STANDARD

NOTE FOR MRC AXFS: IF REPLY CODE AXH IS ENTERED FOR MRC ALJP, REPLY TO MRC AXFS.

ALL* (See Note Above)

APP Key	MRC	Mode Code	Requirements
	AXFS	J	OVERSIZE

Definition: THE MEASURED AMOUNT OF THE OVERSIZE.

Reply Instructions: Enter the applicable Reply Code from Tables 1 and 2 below, followed by the numeric value. (e.g., AXFSJAA0.005*; AXFSJLA0.1*; AXFSJAB0.004$$JAC0.006*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

SECTION: G

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED22102*)

ALL			
	MATL	D	MATERIAL

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDST0000*; MATLDST0000$DSTB000*)

ALL			
	BQSY	J	END HARDNESS RATING

Definition: A NUMERIC VALUE THAT REFLECTS THE HARDNESS OF THE END(S) WHEN USED IN CONJUNCTION WITH A HARDNESS RATING SCALE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BQSYJRCA43.0*; BQSYJRCB42.0$$JRCC44.0*)

For items that do not require a rating, change the Mode Code to K and enter Reply Code N. (e.g., BQSYKN*)

Table 1

REPLY CODE	REPLY (AC26)
RC	ROCKWELL C
RS	ROCKWELL SUPERFICIAL 15-N

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

APP Key	MRC	Mode Code	Requirements

ALL

BQSZ D END CASEHARDENING INDICATOR

Definition: INDICATES WHETHER OR NOT AN OBJECT WITH FERROUS ALLOY ENDS HAS BEEN SUBJECTED TO A PROCESS WHEREBY THE END OUTER PORTION IS MADE SUBSTANTIALLY HARDER THAN THE INNER PORTION.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BQSZDB*)

REPLY CODE	REPLY (AA70)
A	CASEHARDENED
B	NOT CASEHARDENED

ALL

ADAR J BODY OUTSIDE DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF THE BODY, AND TERMINATES AT THE OUTSIDE CIRCUMFERENCE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ADARJAA0.375*; ADARJLA9.5*; ADARJAB0.370$$JAC0.380*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

APP Key	MRC	Mode Code	Requirements
	ABHP	J	OVERALL LENGTH

Definition: THE DIMENSION MEASURED ALONG THE LONGITUDINAL AXIS WITH TERMINATED POINTS AT THE EXTREME ENDS OF THE ITEM.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABHPJAA15.468*; ABHPJLA392.1*; ABHPJAB15.450$$JAC15.480*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

	STYL	L	STYLE DESIGNATOR

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE ITEM.

Reply Instructions: Enter the applicable I/SAC from Appendix C, Table 1, followed by the group designator and applicable style number from Appendix B , Reference Drawing Group K. (e.g., STYL2AALK1* STYL2BALK3*)

ALL

	AJGE	D	BODY TYPE

Definition: INDICATES THE TYPE OF BODY PROVIDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AJGEDAW*)

REPLY CODE	REPLY (AE98)
AW	SOLID
RB	TUBULAR

FIIG T
Section Parts

APP Key	MRC	Mode Code	Requirements

SECTION: H

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED15883*)

ALL			
	MATL	D	MATERIAL

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDST0000*; MATLDST0000$DSTB000*)

ALL			
	AETC	J	METALLIC HARDNESS RATING

Definition: A NUMERIC VALUE THAT REFLECTS THE HARDNESS OF A METALLIC ITEM WHEN USED IN CONJUNCTION WITH A HARDNESS RATING SCALE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AETCJARC60.0*; AETCJBRC55.0$$JCRC65.0*)

For items that do not require a rating, change the Mode Code to K and enter Reply Code N. (e.g., AETCKN*)

Table 1

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

Table 2

REPLY CODE	REPLY (AC26)
RA	ROCKWELL A
RB	ROCKWELL B

APP Key	MRC	Mode Code	Requirements
		RC	ROCKWELL C
		RS	ROCKWELL SUPERFICIAL 15-N

ALL

AASG D CASEHARDENING INDICATOR

Definition: INDICATES WHETHER OR NOT A FERROUS ALLOY OBJECT HAS BEEN SUBJCTED TO A PROCESS WHEREBY THE OUTER PORTION IS MADE SUBSTANTIALLY HARDER THAN THE INNER PORTION OR CORE.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AASGDB*)

REPLY CODE	REPLY (AA70)
A	CASEHARDENED
B	NOT CASEHARDENED

ALL*

SURF D SURFACE TREATMENT

Definition: CONSISTS OF PLATING, DIP, AND/OR COATING THAT CANNOT BE WIPED OFF. PLATING AND/OR COATING IS ANY CHEMICAL AND/OR METALLIC ADDITIVE, ELECTROCHEMICAL, OR MILD MECHANICAL PROCESS WHICH PROTECTS A SURFACE.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 2. (e.g., SURFDCDR000*; SURFDCDR000$DCRA000*)

ALL

STYL L STYLE DESIGNATOR

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE ITEM.

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group L, M, N or P. (e.g., STYLLL3*)

ALL

AFEW D THREAD PROVISION

APP Key	MRC	Mode Code	Requirements

Definition: AN INDICATION OF WHETHER A PORTION(S) OF THE ITEM IS THREADED OR UNTHREADED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AFEWDB*)

REPLY CODE	REPLY (AE00)
B	THREADED
C	UNTHREADED

NOTE FOR MRCS ABUJ, AJYP, AND AAJF: IF REPLY CODE B IS ENTERED FOR MRC AFEW, REPLY TO MRCS ABUJ, AJYP, AND AAJF.

ALL* (See Note Above)

ABUJ A THREAD SIZE

Definition: DESIGNATES THE THREAD DIAMETER AND NUMBER OF THREADS PER SPECIFIC MEASUREMENT SCALE.

Reply Instructions: Enter the thread size.

(e.g., ABUJA3/8-18*;

ABUJA1-11-1/2*)

ALL* (See Note Preceding MRC ABUJ)

AJYP D SCREW THREAD SERIES DESIGNATOR

Definition: A DESIGNATION DISTINGUISHING ONE GROUP OF SCREW THREAD DIAMETER-PITCH COMBINATIONS FROM ANOTHER BY THE NUMBER OF THREADS PER MEASUREMENT SCALE FOR A SPECIFIC DIAMETER.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AJYPDNC*)

REPLY CODE	REPLY (AH06)
SM	ISO M
SS	ISO S
NC	UNC
NF	UNF
NS	UNS

APP Key	MRC	Mode Code	Requirements

ALL* (See Note Preceding MRC ABUJ)

AAJF D THREAD DIRECTION

Definition: THE DIRECTION OF THE THREAD WHEN VIEWED AXIALLY. A RIGHT-HAND THREAD WINDS IN A CLOCKWISE DIRECTION WHILE A LEFT-HAND THREAD WINDS IN A COUNTERCLOCKWISE DIRECTION.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AAJFDL*)

REPLY CODE	REPLY (AA38)
L	LEFT-HAND
R	RIGHT-HAND

SECTION: J

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED22200*)

ALL			
	AMWW	D	ROTATION DIRECTION

Definition: THE DIRECTION IN WHICH AN ITEM IS DESIGNED TO ROTATE, WHEN VIEWED AXIALLY.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AMWWDM*; AMWWDK$$DM*; AMWWDK$DM*)

REPLY CODE	REPLY (AA38)
K	CLOCKWISE
M	COUNTERCLOCKWISE

ALL			
	BQTW	B	MINIMUM ROTATION IN DEG

Definition: A MEASUREMENT OF THE SMALLEST DEGREE OF ROTATION.

Reply Instructions: Enter the numeric value. (e.g., BQTWB2.0*)

ALL			
	BQTX	J	STARTING LOAD RANGE

Definition: THE STARTING LOAD MINIMUM AND MAXIMUM LIMITS FOR WHICH THE ITEM IS DESIGNED.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the numeric values. Precede values with a P. (e.g., BQTXJAYP80.0/P210.0*; BQTXJCPP35.0/P129.0*)

APP Key	MRC	Mode Code	Requirements
		REPLY CODE	REPLY (AJ20)
		MC #	DECANEWTONS
		CP	KILOGRAMS
		AY	POUNDS
ALL			
	STYL	L	STYLE DESIGNATOR

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE ITEM.

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group Q. (e.g., STYLLQ3*)

SECTION: K

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED28215*)

ALL			
	MATL	D	MATERIAL

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDST0000*; MATLDBR0000$$DSTB000*; MATLDST0000$DSTB000*)

ALL*			
	AETC	J	METALLIC HARDNESS RATING

Definition: A NUMERIC VALUE THAT REFLECTS THE HARDNESS OF A METALLIC ITEM WHEN USED IN CONJUNCTION WITH A HARDNESS RATING SCALE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AETCJARC60.0*; AETCJBRC55.0$$JCRC65.0*)

For items that do not require a rating, change the Mode Code to K and enter Reply Code N. (e.g., AETCKN*)

Table 1

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

Table 2

REPLY CODE	REPLY (AC26)
RA	ROCKWELL A
RB	ROCKWELL B

APP Key	MRC	Mode Code	Requirements
		RC	ROCKWELL C
		RD	ROCKWELL D
		RJ	ROCKWELL STANDARD
		RS	ROCKWELL SUPERFICIAL 15-N
		RU	ROCKWELL SUPERFICIAL 30-N
		RN	ROCKWELL SUPERFICIAL 45-N

ALL

AASG D CASEHARDENING INDICATOR

Definition: INDICATES WHETHER OR NOT A FERROUS ALLOY OBJECT HAS BEEN SUBJECTED TO A PROCESS WHEREBY THE OUTER PORTION IS MADE SUBSTANTIALLY HARDER THAN THE INNER PORTION OR CORE.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AASGDA*)

REPLY CODE	REPLY (AA70)
A	CASEHARDENED
B	NOT CASEHARDENED

ALL*

SURF D SURFACE TREATMENT

Definition: CONSISTS OF PLATING, DIP, AND/OR COATING THAT CANNOT BE WIPED OFF. PLATING AND/OR COATING IS ANY CHEMICAL AND/OR METALLIC ADDITIVE, ELECTROCHEMICAL, OR MILD MECHANICAL PROCESS WHICH PROTECTS A SURFACE.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 2. (e.g., SURFDMM0000*; SURFDAN0000$$DZZB000*; SURFDPS0000$DPH0000*)

ALL

STYL L STYLE DESIGNATOR

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE ITEM.

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group R. (e.g., STYLLR4*)

FIIG T
Section Parts

SECTION: L

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME
	Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.		
	Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED33265*)		
ALL			
	MATL	D	MATERIAL
	Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.		
	Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDST0000*; MATLDST0000$DSTB000*)		
ALL*			
	SURF	D	SURFACE TREATMENT
	Definition: CONSISTS OF PLATING, DIP, AND/OR COATING THAT CANNOT BE WIPED OFF. PLATING AND/OR COATING IS ANY CHEMICAL AND/OR METALLIC ADDITIVE, ELECTROCHEMICAL, OR MILD MECHANICAL PROCESS WHICH PROTECTS A SURFACE.		
	Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 2. (e.g., SURFDCRA000*; SURFDCRA000$DNFG000*)		
ALL			
	AETC	J	METALLIC HARDNESS RATING
	Definition: A NUMERIC VALUE THAT REFLECTS THE HARDNESS OF A METALLIC ITEM WHEN USED IN CONJUNCTION WITH A HARDNESS RATING SCALE.		
	Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followd by the numeric value. (e.g., AETCJARC30.0*; AETCJBRC25.0$$JCRC30.0*)		

APP Key	MRC	Mode Code	Requirements

For items that do not require a rating, change the Mode Code to K and enter Reply Code N. (e.g., AETCKN*)

Table 1

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

Table 2

REPLY CODE	REPLY (AC26)
RA	ROCKWELL A
RB	ROCKWELL B
RC	ROCKWELL C
RD	ROCKWELL D
RE	ROCKWELL E
RF	ROCKWELL F
RJ	ROCKWELL STANDARD

ALL

STYL L STYLE DESIGNATOR

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE ITEM.

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group S. (e.g., STYLLS2*)

ALL*

AMAS G VOLUME IDENTIFICATION

Definition: THE NUMBER OR OTHER TERMINOLOGY THAT IDENTIFIES A SPECIFIC VOLUME(S).

Reply Instructions: Enter the reply in clear text. (e.g., AMASGCOMBUSTION VOLUME 79.0 CUBIC CENTIMETERS*)

SECTION: M

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED33266*)

ALL			
	MATL	D	MATERIAL

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDST0000*; MATLDST0000$DSTB000*)

ALL			
	AETC	J	METALLIC HARDNESS RATING

Definition: A NUMERIC VALUE THAT REFLECTS THE HARDNESS OF A METALLIC ITEM WHEN USED IN CONJUNCTION WITH A HARDNESS RATING SCALE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AETCJARC45.0*; AETCJBRC45.0$$JCRC55.0*)

For items that do not require a rating, change the Mode Code to K and enter Reply Code N. (e.g., AETCKN*)

Table 1

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

Table 2

REPLY CODE	REPLY (AC26)
RA	ROCKWELL A
RB	ROCKWELL B

APP Key	MRC	Mode Code	Requirements
		RC	ROCKWELL C
		RD	ROCKWELL D
		RJ	ROCKWELL STANDARD

ALL

AASG D CASEHARDENING INDICATOR

Definition: INDICATES WHETHER OR NOT A FERROUS ALLOY OBJECT HAS BEEN SUBJECTED TO A PROCESS WHEREBY THE OUTER PORTION IS MADE SUBSTANTIALLY HARDER THAN THE INNER PORTION OR CORE.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AASGDA*)

REPLY CODE	REPLY (AA70)
A	CASEHARDENED
B	NOT CASEHARDENED

ALL*

SURF D SURFACE TREATMENT

Definition: CONSISTS OF PLATING, DIP, AND/OR COATING THAT CANNOT BE WIPED OFF. PLATING AND/OR COATING IS ANY CHEMICAL AND/OR METALLIC ADDITIVE, ELECTROCHEMICAL, OR MILD MECHANICAL PROCESS WHICH PROTECTS A SURFACE.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 2. (e.g., SURFDCRA000*; SURFDCRA000$DNFG000*)

ALL

STYL L STYLE DESIGNATOR

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE ITEM.

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group T. (e.g., STYLLT4*)

ALL

APP Key	MRC	Mode Code	Requirements

ABUJ A THREAD SIZE

Definition: DESIGNATES THE THREAD DIAMETER AND NUMBER OF THREADS PER SPECIFIC MEASUREMENT SCALE.

Reply Instructions: Enter the thread size.

(e.g., ABUJA1/2-20*)

ALL

BZRR D THREAD SERIES

Definition: A DESIGNATION INDICATING THE DIAMETER-PITCH COMBINATION AND THE NUMBER OF THREADS PER MEASUREMENT SCALE APPLIED TO A SERIES OF DIAMETERS.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BZRRDNF*)

REPLY CODE	REPLY (AH06)
SM	ISO M
SS	ISO S
UN	UN
NC	UNC
NE	UNEF
NF	UNF
NS	UNS

ALL

AAJD A THREAD CLASS

Definition: A NUMERIC-ALPHA DESIGNATOR INDICATING THE PITCH DIAMETER TOLERANCE AND AN EXTERNAL OR INTERNAL THREAD.

Reply Instructions: Enter the thread class. (e.g., AAJDA3A*; AAJDA2A$A3A*)

ALL

AAJF D THREAD DIRECTION

Definition: THE DIRECTION OF THE THREAD WHEN VIEWED AXIALLY. A RIGHT-HAND THREAD WINDS IN A CLOCKWISE DIRECTION WHILE A LEFT-HAND THREAD WINDS IN A COUNTERCLOCKWISE DIRECTION.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AAJFDR*)

REPLY CODE	REPLY (AA38)
L	LEFT-HAND
R	RIGHT-HAND

ALL

CTTC J THREAD TOLERANCE CLASS

Definition: A NUMERIC-ALPHA DESIGNATOR INDICATING ESTABLISHED PITCH AND CREST DIAMETER TOLERANCE POSITION AND GRADE.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the designation. (e.g., CTTCJEXT6H*; CTTCJNTE6G*)

REPLY CODE	REPLY (AN73)
EXT	EXTERNAL
NTE	INTERNAL

SECTION: N

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED60557*)

ALL			
	MATL	D	MATERIAL

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDST0000*; MATLDST0000$DSTB000*)

ALL*			
	AETC	J	METALLIC HARDNESS RATING

Definition: A NUMERIC VALUE THAT REFLECTS THE HARDNESS OF A METALLIC ITEM WHEN USED IN CONJUNCTION WITH A HARDNESS RATING SCALE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AETCJARC45.0*; AETCJBRC45.0$$JCRC55.0*)

Table 1

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

Table 2

REPLY CODE	REPLY (AC26)
RA	ROCKWELL A
RB	ROCKWELL B
RC	ROCKWELL C
RS	ROCKWELL SUPERFICIAL 15-N

APP Key	MRC	Mode Code	Requirements

ALL*

SURF D SURFACE TREATMENT

Definition: CONSISTS OF PLATING, DIP, AND/OR COATING THAT CANNOT BE WIPED OFF. PLATING AND/OR COATING IS ANY CHEMICAL AND/OR METALLIC ADDITIVE, ELECTROCHEMICAL, OR MILD MECHANICAL PROCESS WHICH PROTECTS A SURFACE.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 2. (e.g., SURFDCRA000*; SURFDCRA000$DNFG000*)

ALL

STYL L STYLE DESIGNATOR

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE ITEM.

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group U. (e.g., STYLLU1*)

ALL

AFEW D THREAD PROVISION

Definition: AN INDICATION OF WHETHER A PORTION(S) OF THE ITEM IS THREADED OR UNTHREADED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AFEWDB*)

REPLY CODE	REPLY (AE00)
B	THREADED
C	UNTHREADED

NOTE FOR MRCS ABUJ, AJYP, AND AAJF: IF REPLY CODE B IS ENTERED FOR MRC AFEW, REPLY TO MRCS ABUJ, AJYP, AND AAJF.

ALL* (See Note Above)

ABUJ A THREAD SIZE

APP Key	MRC	Mode Code	Requirements

Definition: DESIGNATES THE THREAD DIAMETER AND NUMBER OF THREADS PER SPECIFIC MEASUREMENT SCALE.

Reply Instructions: Enter the thread size.

(e.g., ABUJA3/8-18;

ABUJA1-11-1/2*)

ALL* (See Note Preceding MRC ABUJ)

AJYP D SCREW THREAD SERIES DESIGNATOR

Definition: A DESIGNATION DISTINGUISHING ONE GROUP OF SCREW THREAD DIAMETER-PITCH COMBINATIONS FROM ANOTHER BY THE NUMBER OF THREADS PER MEASUREMENT SCALE FOR A SPECIFIC DIAMETER.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AJYPDNC*)

REPLY CODE	REPLY (AH06)
SM	ISO M
SS	ISO S
NC	UNC
NF	UNF
NS	UNS

ALL* (See Note Preceding MRC ABUJ)

AAJF D THREAD DIRECTION

Definition: THE DIRECTION OF THE THREAD WHEN VIEWED AXIALLY. A RIGHT-HAND THREAD WINDS IN A CLOCKWISE DIRECTION WHILE A LEFT-HAND THREAD WINDS IN A COUNTERCLOCKWISE DIRECTION.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AAJFDL*)

REPLY CODE	REPLY (AA38)
L	LEFT-HAND
R	RIGHT-HAND

FIIG T
Section Parts

SECTION: P

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code from the index appearing in the General Information Section. (e.g., NAMED60371*)

ALL			
	MATL	D	MATERIAL

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDST0000*; MATLDST0000$DSTB000*)

ALL*			
	SURF	D	SURFACE TREATMENT

Definition: CONSISTS OF PLATING, DIP, AND/OR COATING THAT CANNOT BE WIPED OFF. PLATING AND/OR COATING IS ANY CHEMICAL AND/OR METALLIC ADDITIVE, ELECTROCHEMICAL, OR MILD MECHANICAL PROCESS WHICH PROTECTS A SURFACE.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 2. (e.g., SURFDABA000*; SURFDABA000$DBA0000*)

ALL*			
	BPPQ	D	VALVE ARRANGEMENT FOR WHICH DESIGNED

Definition: THE VALVE ARRANGEMENT FOR WHICH THE ITEM IS DESIGNED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BPPQDASN*)

REPLY CODE	REPLY (AK54)
BRG	F

APP Key	MRC	Mode Code	Requirements
		BRH	I
		ASN	L
		BRJ	T

ALL

BFMF D COOLING METHOD

Definition: THE MEANS OF COOLING USED TO MAINTAIN THE REQUIRED OPERATING TEMPERATURE OF THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. (BFMFDAAQ*)

REPLY CODE	REPLY (AN05)
AAR	AIR
AAQ	LIQUID

ALL

ABHP J OVERALL LENGTH

Definition: THE DIMENSION MEASURED ALONG THE LONGITUDIAL AXIS WITH TERMINATED POINTS AT THE EXTREME ENDS OF THE ITEM.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABHPJAA15.468*; ABHPJLA392.1*; ABHPJAB15.450$$JAC15.480;*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

APP Key	MRC	Mode Code	Requirements
	ABKW	J	OVERALL HEIGHT

Definition: THE DISTANCE MEASURED IN A STRAIGHT LINE FROM THE BOTTOM TO THE TOP OF AN ITEM.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABKWJAA4.365*; ABKWJLA111.1*; ABKWJAB4.365$$JAC4.385*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

	ABMK	J	OVERALL WIDTH

Definition: AN OVERALL MEASUREMENT TAKEN AT RIGHT ANGLES TO THE LENGTH OF AN ITEM, IN DISTINCTION FROM THICKNESS.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABMKJAA8.000*; ABMKJLA190.0*; ABMKJAB8.125$$JAC8.250*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

APP Key	MRC	Mode Code	Requirements
	CZGR	A	VALVE PORT QUANTITY

Definition: THE NUMBER OF VALVE PORTS PROVIDED ON THE ITEM.

Reply Instructions: Enter the quantity. (e.g., CZGRA8*)

ALL

ABTJ	A	MOUNTING HOLE QUANTITY

Definition: THE NUMBER OF MOUNTING HOLES PROVIDED.

Reply Instructions: Enter the quantity. (e.g., ABTJA14*)

NOTE FOR MRCs CBBL AND FEAT: E MODE REPLIES WILL NOT BE ACCEPTED IN REPLY FOR MRC CBBL. IF A REPLY IS NOT REFLECTED IN THE TABLE FOR MRC CBBL, ENTER THE FEATURE IN REPLY TO MRC FEAT.

ALL* (See Note Above)

CBBL	D	FEATURES PROVIDED

Definition: THOSE FEATURES, NOT OTHERWISE SPECIFIED, WHICH MAY BE REQUIRED FOR PROPER FUNCTIONING OF THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., CBBLDBEM*)

REPLY CODE	REPLY (AN47)
DNY	CAMSHAFT
BEM	COVER
DNZ	ROCKER ARMS
DPA	ROCKER SHAFT
DML	VALVE

SECTION: STANDARD

APP Key	MRC	Mode Code	Requirements
ALL *	(See Note Preceding MRC CBBL)		
	FEAT	G	SPECIAL FEATURES

Definition: THOSE UNUSUAL OR UNIQUE CHARACTERISTICS OR QUALITIES OF AN ITEM NOT COVERED IN THE OTHER REQUIREMENTS AND WHICH ARE DETERMINED TO BE ESSENTIAL FOR IDENTIFICATION.

Reply Instructions: Enter the reply in clear text. Separate multiple replies with a semicolon. (e.g., FEATGADJUSTABLE NOSE CLIP*; FEATGADJUSTABLE NOSE PIECE; DISPOSABLE*)

ALL*			
	TEST	J	TEST DATA DOCUMENT

Definition: THE SPECIFICATION, STANDARD, DRAWING, OR SIMILAR INSTRUMENT THAT SPECIFIES ENVIRONMENTAL AND PERFORMANCE REQUIREMENTS OR TEST CONDITIONS UNDER WHICH AN ITEM IS TESTED AND ESTABLISHES ACCEPTABLE LIMITS WITHIN WHICH THE ITEM MUST CONFORM IDENTIFIED BY AN ALPHABETIC AND/OR NUMERIC REFERENCE NUMBER. INCLUDES THE COMMERCIAL AND GOVERNMENT ENTITY (CAGE) CODE OF THE ENTITY CONTROLLING THE INSTRUMENT.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the 5-position CAGE Code, a dash, and the document identification number.

(e.g., TESTJA12345-CWX654321*;

TESTJA1234A-654321$$JB5556A-663654*;

TESTJAA2345-654321$JB55566-663654*)

REPLY CODE	REPLY (AC28)
A	SPECIFICATION (Includes engineering type bulletins, brochures, etc., that reflect specification type data in specification format; excludes commercial catalogs, industry directories, and similar trade publications, reflecting general type data on certain environmental and performance requirements and test conditions that are shown as "typical," "average," "nominal," etc.)
B	STANDARD (Includes industry or association standards, individual manufacturer standards, etc.)

APP Key	MRC	Mode Code	Requirements
		C	DRAWING (This is the basic governing drawing, such as a contractor drawing, original equipment manufacturer drawing, etc.; excludes any specification, standard, or other document that may be referenced in a basic governing drawing)

ALL*

SPCL G SPECIAL TEST FEATURES

Definition: TEST CONDITIONS AND RATINGS, OR ENVIRONMENTAL AND PERFORMANCE REQUIREMENTS THAT ARE DIFFERENT, MORE CRITICAL, OR MORE SPECIFIC THAN THOSE SPECIFIED IN A GOVERNING TEST DATA DOCUMENT.

Reply Instructions: Enter the reply in clear text. (e.g., SPCLGSELECTED AND TESTED FOR NAVIGATIONAL SYSTEMS*)

ALL*

ZZZK J SPECIFICATION/STANDARD DATA

Definition: THE DOCUMENT DESIGNATOR OF THE SPECIFICATION OR STANDARD WHICH ESTABLISHED THE ITEM OF SUPPLY.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the Commercial and Government Entity (CAGE) Code of the entity controlling the document, a dash, and the document designator. The agency that controls the limited coordination document must be preceded and followed by a slash following the designator. The word canceled or superseded must be preceded and followed by a slash for the designator. Professional and industrial association specifications/standards are differentiated from a manufacturer's specification in that the data has been coordinated and published by the professional and industrial association. Include amendments and revisions where applicable.

(e.g., ZZZKJT81337-30642B*;

ZZZKJS81349-MIL-D-180 REV1/CANCELED/*;

ZZZKJP80205-NAS1103*;

ZZZKJS81349-MIL-C-1140C/CE/*;

ZZZKJT81337-30642B$$JP80205-NAS1103*)

APP Key	MRC	Mode Code	Requirements

REPLY CODE	REPLY (AN62)
S	GOVERNMENT SPECIFICATION
T	GOVERNMENT STANDARD
D	MANUFACTURERS SOURCE CONTROL
R	MANUFACTURERS SPECIFICATION
N	MANUFACTURERS SPECIFICATION CONTROL
M	MANUFACTURERS STANDARD
A	PROFESSIONAL/INDUSTRIAL ASSOCIATION SPECIFICATION
P	PROFESSIONAL/INDUSTRIAL ASSOCIATION STANDARD

NOTE FOR MRC ZZZT: IF THE SPECIFICIATION/STANDARD CITED IN REPLY TO MRC ZZZK IS NONDEFINITIVE, REPLY TO MRC ZZZT. THIS REPLY IS THE DATA WHICH IS NOT RECORDED IN SEGMENT C.

ALL* (See Note Above)

ZZZT J NONDEFINITIVE SPEC/STD DATA

Definition: THE NUMBER, LETTER, OR SYMBOL THAT INDICATES THE TYPE, STYLE, GRADE, CLASS, AND THE LIKE, OF AN ITEM IN A NONIDENTIFYING SPECIFICATION OR STANDARD.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 3, followed by the appropriate number, letter, or symbol. (e.g., ZZZTJTY1*; ZZZTJTY1$$JSTA*; ZZZTJTY1$JSTA*)

ALL*

ZZZW G DEPARTURE FROM CITED DOCUMENT

Definition: THE TECHNICAL DIFFERENTIATING CHARACTERISTIC(S) OF AN ITEM OF SUPPLY WHICH DEPART(S) FROM THE TEXT OF A SPECIFICATION OR A STANDARD IN THAT IT REPRESENTS A SELECTION OF CHARACTERISTICS STATED IN THE SPECIFICATION OR STANDARD AS BEING OPTIONAL, OR A VARIATION FROM ONE OR MORE OF THE STATED CHARACTERISTICS, OR AN ADDITIONAL CHARACTERISTIC NOT STATED IN THE SPECIFICATION OR STANDARD.

Reply Instructions: Enter the reply in clear text. (e.g., ZZZWGAS MODIFIED BY MATERIAL*)

APP Key	MRC	Mode Code	Requirements
ALL*			
	ZZZX	G	DEPARTURE FROM CITED DESIGNATOR
			Definition: THE VARIATION WHEN THE ITEM IS IN CONFORMITY WITH A TYPE DESIGNATOR COVERED BY A SPECIFICATION OR STANDARD, EXCEPT IN REGARD TO ONE OR MORE TECHNICAL DIFFERENTIATING CHARACTERISTICS.
			Reply Instructions: Enter the reply in clear text. (e.g., ZZZXGAS MODIFIED BY MATERIAL*)
ALL*			
	ZZZY	G	REFERENCE NUMBER DIFFERENTIATING CHARACTERISTICS
			Definition: A FEATURE OF THE ITEM OF SUPPLY WHICH MUST BE SPECIFICALLY RECORDED WHEN THE REFERENCE NUMBER COVERS A RANGE OF ITEMS.
			Reply Instructions: Enter the reply in clear text. (e.g., ZZZYGCOLOR CODED LEADS*; ZZZYGAS DIFFERENTIATED BY MATERIAL*)
ALL*			
	CRTL	A	CRITICALITY CODE JUSTIFICATION
			Definition: THE MASTER REQUIREMENT CODES OF THOSE REQUIREMENTS WHICH ARE TECHNICALLY CRITICAL BY REASON OF TOLERANCE, FIT, PERFORMANCE, OR OTHER CHARACTERISTICS WHICH AFFECT IDENTIFICATION OF THE ITEM.
			Reply Instructions: Enter the Master Requirement Code for the requirement, the reply to which renders the item as being critical. (e.g., CRTLAMATL*; CRTLAMATL$$ASURF*)
			Reply to this requirement only if the header record for the item identification for the item being identified has been coded as critical.
NOTE FOR MRC PRPY: IF DOCUMENT AVAILABILITY CODE B, D, F, OR H, REPLY TO MRC PRPY.			
ALL* (See Note Above)			

APP Key	MRC	Mode Code	Requirements
	PRPY	A	PROPRIETARY CHARACTERISTICS

Definition: IDENTIFICATION OF THOSE CHARACTERISTICS INCLUDED IN THE DESCRIPTION FOR WHICH A NON-GOVERNMENT ACTIVITY HAS IDENTIFIED ALL OR SELECTED CHARACTERISTICS OF THE ITEM AS BEING PROPRIETARY AND THEREFORE RESTRICTED FROM RELEASE OUTSIDE THE GOVERNMENT WITHOUT PRIOR PERMISSION OF THE ORIGINATOR OF THE DATA.

Reply Instructions: Enter the MRC codes of the individual characteristics of the description which are marked proprietary on the technical data, using AND coding ($$) for multiple characteristics. If all the MRCs are proprietary, enter the reply PACS. If none of the MRCs is proprietary, enter the reply NPAC. (e.g., PRPYAPACS*; PRPYANPAC*; PRPYAMATL$$ASURF*)

NOTE FOR MRC ENAC: ANSWERING THIS MRC WILL GENERATE AN ENAC CODE IN THE ITEM IDENTIFICATION SEGMENT (A) OF THE NSN.

ALL* (See Note Above)

	ENAC	D	ENVIRONMENTAL ATTRIBUTE CODE

Definition: INDICATES THE TYPE OF PRODUCT THAT MEETS OR EXCEEDS THE GOVERNMENT GUIDELINES FOR ENVIRONMENTALLY PREFERRED CHARACTERISTICS.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., ENACDF9*)

REPLY CODE	REPLY (EN02)
G4	COMPREHENSIVE PROCUREMENT GUIDELINE—VEHICULAR PRODUCTS—REBUILT VEHICULAR PARTS

ALL*

	ELRN	G	EXTRA LONG REFERENCE NUMBER

Definition: A REFERENCE NUMBER EXCEEDING 32 POSITIONS.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the entire reference number. Do not include the 5-position Commercial and Government Entity (CAGE) Code unless there is more than one extra long reference number on the NSN, (e.g., ELRNGANN112036BIL060557LEN313605UZ62365*).

If there is more than one extra long reference number on the NSN, include the CAGE or NCAGE and separate each reference by using the "&" character, (e.g., 28480 ANN112036BIL060557LEN313605UZ62365 & S1234 NN112036BIL060557LEN313605UZ62365).

In determining quantity of characters in the reference number, count will be made after modification in accordance with Volume 2, Chapter 9, FLIS Procedures Manual, DoD 4100.39-M.

ALL*

ELCD D EXTRA LONG CHARACTERISTIC DESCRIPTION

Definition: A DESCRIPTION THAT EXCEEDS 5000 CHARACTERS.

Reply Instructions: Enter the Reply Code from the table below. (e.g., ELCDDA*)

REPLY CODE	REPLY (AN58)
A	ADDITIONAL DESCRIPTIVE DATA ON MANUAL RECORD

SECTION: SUPPTECH

APP Key	MRC	Mode Code	Requirements
ALL			
	CBME	J	CUBIC MEASURE

Definition: A MEASUREMENT OF VOLUME TAKEN BY MULTIPLYING THE LENGTH BY THE WIDTH BY THE HEIGHT OF AN ITEM AND RENDERED IN CUBIC UNITS.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the numeric value. (e.g., CBMEJCF1.0219*; CBMEJCM0.3*)

REPLY CODE	REPLY (AN76)
CF	CUBIC FEET
CM	CUBIC METERS

ALL			
	SUPP	G	SUPPLEMENTARY FEATURES

Definition: CHARACTERISTICS OR QUALITIES OF AN ITEM, NOT COVERED IN ANY OTHER REQUIREMENT, WHICH ARE CONSIDERED ESSENTIAL INFORMATION FOR ONE OR MORE FUNCTIONS EXCLUDING NSN ASSIGNMENT.

Reply Instructions: Enter the reply in clear text. (e.g., SUPPGMAY INCL HOLE IN UPPER SUPPORT FOR MTG DURING SHIPMENT*)

ALL			
	AGAV	G	END ITEM IDENTIFICATION

Definition: THE NATIONAL STOCK NUMBER OR THE IDENTIFICATION INFORMATION OF THE END EQUIPMENT FOR WHICH THE ITEM IS A PART.

Reply Instructions: Enter the reply in clear text.

(e.g., AGAVG3930-00-000-0000*;

AGAVGFORKLIFT TRUCK, SMITH CORPORATION, MODEL 12, TYPE A*)

ALL			
	ZZZV	G	FSC APPLICATION DATA

APP Key	MRC	Mode Code	Requirements

Definition: THE JUSTIFICATION FOR THE ASSIGNMENT OF A FEDERAL SUPPLY CLASS (FSC) TO AN ITEM BASED ON THE CLASSIFICATION OF THE NEXT HIGHER CLASSIFIABLE ASSEMBLY.

Reply Instructions: Enter the name of the next higher classifiable assembly in clear text. (e.g., ZZZVGBEARINGS, ANTIFRICTION, UNMOUNTED*)

ALL	CXCY	G	PART NAME ASSIGNED BY CONTROLLING AGENCY

Definition: THE NAME ASSIGNED TO THE ITEM BY THE GOVERNMENT AGENCY OR COMMERCIAL ORGANIZATION CONTROLLING THE DESIGN OF THE ITEM.

Reply Instructions: Enter the reply in clear text. (e.g., CXCYGLINE PROCESSOR CONTROL BOARD*)

FIIG T
Section Parts

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Reply Tables

Table 1 - MATERIALS

MATERIALS

REPLY CODE	REPLY (AD09)
ALC000	ALUMINUM
AL0000	ALUMINUM ALLOY
AL2730 #	ALUMINUM ALLOY, A-GS
AL2774 #	ALUMINUM ALLOY, A-S13
AL2775 #	ALUMINUM ALLOY, A-U5GT
AL0003	ALUMINUM ALLOY, AMS 4118
AL0129	ALUMINUM ALLOY, QQ-A-225/5
AL1835	ALUMINUM ALLOY, QQ-A-225/6, O
AL0944	ALUMINUM ALLOY, QQ-A-225/9, T6
AL0054	ALUMINUM ALLOY, QQ-A-250/6, ALLOY 5083
AL0055	ALUMINUM ALLOY, QQ-A-250/7, ALLOY 5086
AL0428	ALUMINUM ALLOY, QQ-A-367, COMP 4032, T6
AL2396	ALUMINUM ALLOY, QQ-A-596, ALLOY A132, T551
AL0846	ALUMINUM ALLOY, QQ-A-596, ALLOY F132
AL2703 #	ALUMINUM ALLOY, 2017A
AL0102 #	ALUMINUM ALLOY, 2024
AL2776 #	ALUMINUM ALLOY, 2030
ALA000	ALUMINUM BRONZE
AAAAAA	ANY ACCEPTABLE
A	ANY ACCEPTABLE (Do not use for MRC ANNQ)
BC0000	BERYLLIUM COPPER
BR0000	BRASS
BN0000	BRONZE
BNA000	BRONZE ALUMINUM
BN0203	BRONZE, AMS 4845
BN0179	BRONZE, AMS 4846
BNY000	BRONZE, LEADED
BNAD00	BRONZE, LUMEN
CR0000	CHROMIUM
CM0000	COBALT
CMA000	COBALT ALLOY
CMB000	COBALT-CHROMIUM-TUNGSTEN ALLOY
CU0000	COPPER
CK0000	COPPER ALLOY
CK1159	COPPER ALLOY, CU-AL9 MN6NI-FE
CK1172	COPPER ALLOY, CU-AL9 NI3FE2
CK1175 #	COPPER ALLOY, CU-SN9P
CK1197 #	COPPER ALLOY, CU-SN10
CK1198 #	COPPER ALLOY, CU-SN12
CK1199 #	COPPER ALLOY, CU-SN12P
CK1200 #	COPPER ALLOY, CU-SN14
CK1201 #	COPPER ALLOY, CU-ZN10

REPLY CODE	REPLY (AD09)
CK1202 #	COPPER ALLOY, CU-ZN39PB1
CK0456	COPPER ALLOY, QQ-C-530, 172, COND H
	Cres (use Reply Code STB000)
MEF000	GUNMETAL
FE0000	IRON
FEX000	IRON ALLOY
FE0282	IRON, ASTM A48
FE0358	IRON, BW-320-M, GRADE 3, BENDIX CORP
FEA000	IRON, CAST
FE0349	IRON, CAST, MS605, TENNECO INC
FEAB00	IRON, CAST, NICKEL
FEC000	IRON, MALLEABLE
FEAC00	IRON, MALLEABLE, PEARLITIC
FE0052	IRON, MIL-G-858, CLASS 1
FE0263	IRON, N, 46-I-5, CLASS B
FE0080	IRON, QQ-I-652-CANCELED
FE0088	IRON, QQ-I-652, CLASS 25-CANCELED
FE0093	IRON, QQ-I-652, CLASS 50-CANCELED
FE0172	IRON, SAE 122
MA0000	MOLYBDENUM
MAC000	MOLYBDENUM NICKEL
NFF000	NICKEL ALLOY
NC0000	NICKEL COPPER ALLOY (Monel)
NCB000	NICKEL COPPER SILICON ALLOY
NY0000	NYLON
PZ0000	PHOSPHOR BRONZE
PC0000	PLASTIC
PCEEA0	PLASTIC, ACETAL RESIN
PCE000	PLASTIC AMINO
PC2030	PLASTIC, L-P-410
PC2050	PLASTIC, L-P-410, COMP 6/6
PC1546	PLASTIC, LAC-C-22-1142, LOCKHEED-CALIFORNIA CO., A DIV OF LOCKHEED AIRCRAFT CORP
PC1491	PLASTIC, MIL-P-79, TYPE FBG
PC2192	PLASTIC, MIL-P-79, TYPE FBM
PC1441	PLASTIC, MIL-P-20693
PC2657	PLASTIC, MO2S, LOCKHEED-GEORGIA CO
PC1340	PLASTIC, NYLATRON, GS, POLYMER CORP
PCEEF0	PLASTIC, NYLON
PCAAAC	PLASTIC, NYLON RESIN
PC1257	PLASTIC, NYLON RESIN, E.I. DUPONT DE NEMOURS AND CO. INC.
PCAE00	PLASTIC, POLYAMIDE
PCEES0	PLASTIC, POLYAMIDE NYLON
PCCCCL	PLASTIC, POLYAMIDE RESIN
PC2986	PLASTIC, RULON J, DIXON CORP
PCAAAL	PLASTIC, TETRAFLUOROETHYLENE (Teflon)
PC2373	PLASTIC, 820-1492-020, COLLINS RADIO CO

REPLY CODE	REPLY (AD09)
PL0000	POLYAMIDE NYLON
PL0078	POLYAMIDE NYLON, MIL-P-17091, TYPE 1
STAR00	SILICON STEEL
ST0000	STEEL
ST6341	STEEL, AISI 1015
ST6354	STEEL, AISI 1025
ST6366	STEEL, AISI 1040
ST6371	STEEL, AISI 1045
ST6372	STEEL, AISI 1046
ST6525	STEEL, AISI 8637
ST8503	STEEL, AMS 5392
ST1729	STEEL, AMS 5630
ST1917	STEEL, AMS 5643
ST2440	STEEL, AMS 5657
ST2402	STEEL, AMS 6382
STG450 #	STEEL, A33
STG451 #	STEEL, A37
STG452 #	STEEL, A42
STG453 #	STEEL, A48
STG454 #	STEEL, A56
STD598	STEEL, A100227-02, LYTRON INC
STL000	STEEL, CAST
STG455 #	STEEL, CC35
STB000	STEEL, CORROSION RESISTING
STG456 #	STEEL, E24
STG021 #	STEEL, E36
ST1930	STEEL, FED STD 66, AISI/SAE 1020
ST9636	STEEL, FED STD 66, AISI 1141
STAAAN	STEEL, LEADED
ST1898	STEEL, MIL-S-6758, SAE 4130
ST2005	STEEL, MIL-S-13048-CANCELED
ST1644	STEEL, MIL-S-18732
STD596	STEEL, PWA 765, UNITED AIRCRAFT CORP
ST1505	STEEL, QQ-S-624, COMP 6150-CANCELED
ST1523	STEEL, QQ-S-624, COMP 8650-CANCELED
ST3648	STEEL, QQ-S-624, FS E52100-CANCELED
STB301	STEEL, QQ-S-624, FS8740-CANCELED
ST1557	STEEL, QQ-S-637, COMP 1137
ST2649	STEEL, QQ-S-763, CLASS 302, COND B
ST1783	STEEL, QQ-S-763, CLASS 304, COND B
ST2369	STEEL, QQ-S-763, CLASS 321, COND A
ST1662	STEEL, QQ-S-763, CLASS 416
ST1668	STEEL, QQ-S-763, CLASS 440C
ST1767	STEEL, QQ-S-764, TYPE 303-CANCELED
ST6559	STEEL, SAE 1010
ST6585	STEEL, SAE 1050
ST6709	STEEL, SAE 8620

REPLY CODE	REPLY (AD09)
ST6701	STEEL, SAE 52100
STG457 #	STEEL, XC8
STG025 #	STEEL, XC10
STG458 #	STEEL, XC12
STG459 #	STEEL, XC18
STG460 #	STEEL, XC32
STG027 #	STEEL, XC38
STG461 #	STEEL, XC42
STG030 #	STEEL, Z3CN18-10
STG463 #	STEEL, Z10CNT18-1
STG462 #	STEEL, Z10C13
STG465 #	STEEL, Z12CND16-O4
STG464 #	STEEL, Z12CN18-8
STG466 #	STEEL, 10NCD6
STG036 #	STEEL, 10NC6
STG467 #	STEEL, 14NCD16
STG448 #	STEEL, 16NCD4
STG468 #	STEEL, 16NCD6
STG447 #	STEEL, 16NC6
STG469 #	STEEL, 18CD4
STG470 #	STEEL, 20CD4
STG471 #	STEEL, 25CD4
STG045 #	STEEL, 35CD4
STG046 #	STEEL, 35NC6
STG472 #	STEEL, 38C4
TNB000	TUNGSTEN ALLOY
ZNL000	ZINC ALLOY

Table 2 - SURFACE TREATMENTS

SURFACE TREATMENTS

REPLY CODE	REPLY (AD09)
ABA000	ALUMINUM OXIDE
AN0000	ANODIZED
AN0253	ANODIZED, LAC0445, TYPE 2, LOCKHEED-GEORGIA CO
AN0007	ANODIZED, MIL-A-8625, TYPE 2, CLASS 1
AN0009	ANODIZED, MIL-A-8625, TYPE 3, CLASS 1
A	ANY ACCEPTABLE
BA0000	BLACK OXIDE
BRG000	BRASS PLATED
BN0000	BRONZE
CDR000	CADMIUM PLATED
CD0432	CADMIUM PLATED, QQ-P-416, TYPE 1, CLASS 3
CD0433	CADMIUM PLATED, 11188315, CLASS 2, TYPE 2, ARMY SAFEGUARD SYSTEM COMMAND

REPLY CODE	REPLY (AD09)
CD0005	CADMIUM, QQ-P-416, TYPE 1, CLASS 2
CN0000	CHROMATE
CHC000	CHROME PLATED
CH0006	CHROME, QQ-C-320, CLASS 2
CR0025	CHROMIUM, MIL-P-6871, TYPE 2, CLASS A - CANCELED
CRA000	CHROMIUM PLATED
CR0091	CHROMIUM PLATED, BP102, CLASS 2, TYPE 2, THE BENDIX CORP
CR0026	CHROMIUM PLATED, QQ-C-320, CLASS 2
CR0066	CHROMIUM, QQ-C-320
CR0072	CHROMIUM, QQ-C-320, CLASS 2B
CR0024	CHROMIUM, QQ-C-320, TYPE 1, CLASS 2
CUN000	COPPER PLATED
CU0186	COPPER PLATING, MIL-C-14550, CLASS 4
MM0000	IMMUNIZED
LLF000	LUBRICANT, DRY FILM
NF0000	NICKEL
NFG000	NICKEL PLATED
NF0110	NICKEL PLATED, MIL-C-26074, CLASS 2
PS0000	PASSIVATED
PS0563	PASSIVATED, CPC 8209, CLEVELAND PNEUMATIC CO
PS0008	PASSIVATED, MIL-F-14072, FINISH E300
PS0272	PASSIVATED, MIL-STD-171, FINISH 5.4.1
PS0007	PASSIVATED, QQ-P-35
PS0022	PASSIVATED, SP-151, WOODWARD GOVERNOR CO
PH0000	PHOSPHATE
PH0055	PHOSPHATE, MIL-P-16232, TYPE M
PH0003	PHOSPHATE, MIL-P-16232, TYPE M, CLASS 1
PH0004	PHOSPHATE, MIL-P-16232, TYPE M, CLASS 2
PHS000 #	PHOSPHATE, PARKERIZED
ZZB000	RUSTPROOF
SN0004	TIN PLATE, MIL-T-10727, TYPE 1 OR 2
SNF000	TIN PLATED
SN0099	TIN PLATED, AMS 2409
ZNS000	ZINC COATED
ZNN000	ZINC PLATED

Table 3 - NONDEFINITIVE SPEC/STD DATA

NONDEFINITIVE SPEC/STD DATA

REPLY CODE	REPLY (AD08)
AL	ALLOY
AN	ANNEX
AP	APPENDIX
AC	APPLICABILITY CLASS
AR	ARRANGEMENT
AS	ASSEMBLY

REPLY CODE	REPLY (AD08)
AB	ASSORTMENT
BX	BOX
CY	CAPACITY
CA	CASE
CT	CATEGORY
CL	CLASS
CE	CODE
CR	COLOR
CC	COMBINATION CODE
CN	COMPONENT
CP	COMPOSITION
CM	COMPOUND
CD	CONDITION
CS	CONSTRUCTION
DE	DESIGN
DG	DESIGNATOR
DW	DRAWING NUMBER
EG	EDGE
EN	END
FY	FAMILY
FG	FIGURE
FN	FINISH
FM	FORM
FA	FORMULA
GR	GRADE
GP	GROUP
BA	IMAGE COLOR
NS	INSERT
TM	ITEM
KD	KIND
KT	KIT
LG	LENGTH
LT	LIMIT
MK	MARK
AA	MARKER
ML	MATERIAL
BB	MAXIMUM DENSITY
MH	MESH
ME	METHOD
BC	MINIMUM DENSITY
MD	MODEL
MT	MOUNTING
NR	NUMBER
PT	PART
PN	PATTERN
PC	PHYSICAL CONDITION
PS	PIECE
PL	PLAN

REPLY CODE	REPLY (AD08)
PR	POINT
QA	QUALITY
RN	RANGE
RT	RATING
RF	REFERENCE NUMBER
SC	SCHEDULE
SB	SECTION
SL	SELECTION
SE	SERIES
SV	SERVICE
SX	SET
SA	SHADE
SH	SHAPE
SG	SHEET
SZ	SIZE
PZ	SPECIES
SQ	SPECIFICATION SHEET
SD	SPEED
ST	STYLE
SS	SUBCLASS
SF	SUBFORM
SP	SUBTYPE
SN	SURFACE CONDITION
SY	SYMBOL
SM	SYSTEM
TB	TABLE
TN	TANNAGE
TP	TEMPER
TX	TEXTURE
TK	THICKNESS
TT	TREATMENT
TR	TRIM
TY	TYPE
YN	UNIT
VA	VARIETY
WT	WEIGHT
WD	WIDTH

Reference Drawing Groups

REFERENCE DRAWING GROUP A Tables
CYLINDER SLEEVE STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABHPJAA8.375*; ABHPJLA212.7*; ABHPJAB8.350$$JAC8.400*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

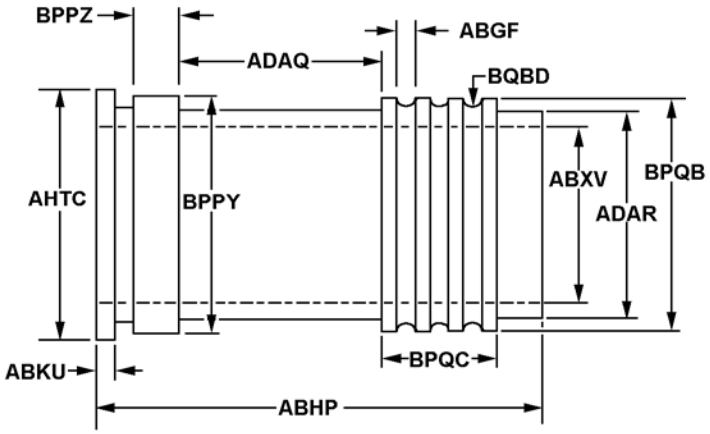
REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

MRC	Mode Code	Name of Dimension
ABGF	J	GROOVE WIDTH
ABHP	J	OVERALL LENGTH
ABKU	J	FLANGE THICKNESS
ABND	J	TAPER LENGTH
ABPA	J	UNDERCUT DIAMETER
ABPY	J	EXPANDED DIAMETER
ABQA	J	TAPER MINOR DIAMETER
ABXV	J	BORE DIAMETER
ADAQ	J	BODY LENGTH
ADAR	J	BODY OUTSIDE DIAMETER
AHTC	J	FLANGE OUTSIDE DIAMETER
BPPY	J	LARGEST OUTSIDE DIAMETER UNDER FLANGE
BPPZ	J	LARGEST OUTSIDE DIAMETER WIDTH UNDER FLANGE
BPQB	J	GROOVED PORTION OUTSIDE DIAMETER
BPQC	J	GROOVED PORTION WIDTH
BQBD	J	GROOVE RADIUS DEPTH

REFERENCE DRAWING GROUP A

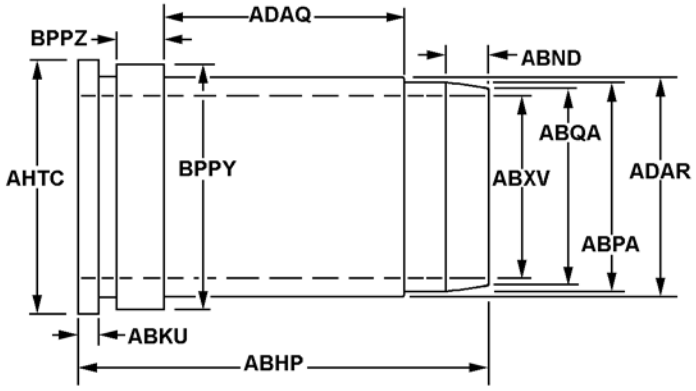
CYLINDER SLEEVE STYLES

1



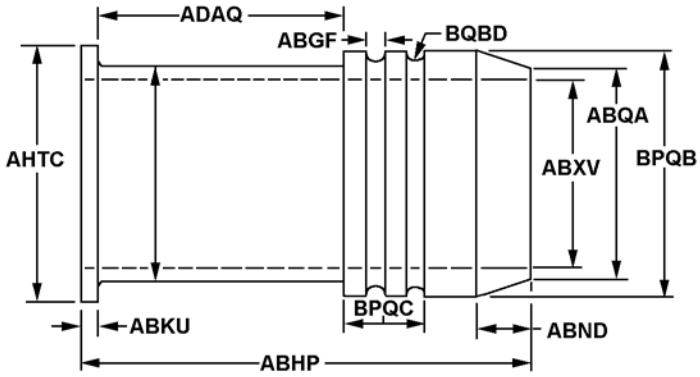
WET, RELIEVED, THREE SEAL GROOVES

2



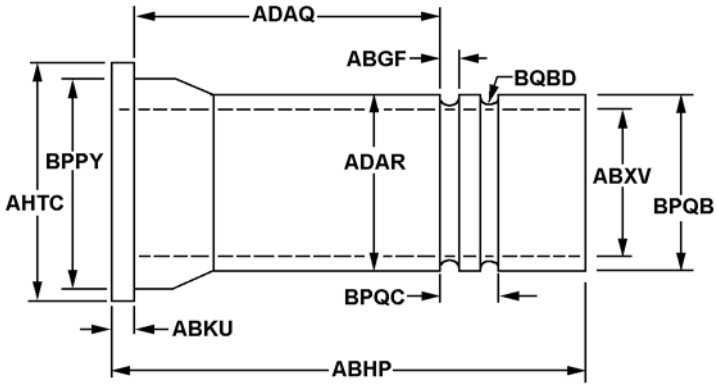
DRY, FLANGED, RELIEVED, SHOULDERED, INSTALLATION CHAMFER

3



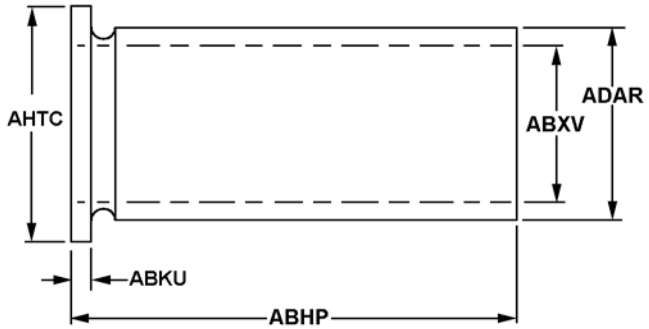
WET, TWO SEAL GROOVES, INSTALLATION CHAMFER

4



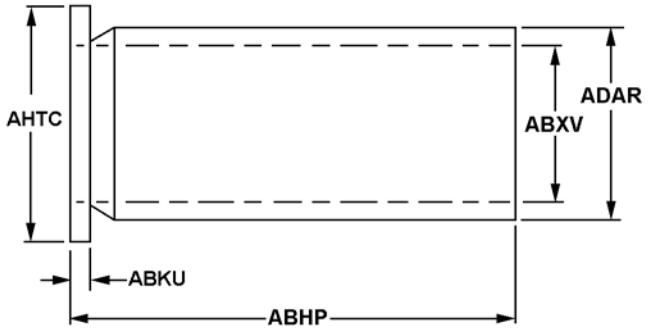
WET, TWO SEAL GROOVES AND PILOT

5



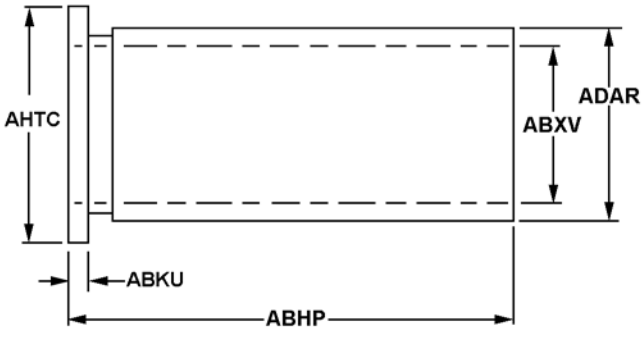
DRY, FLANGED, RELIEVED

6



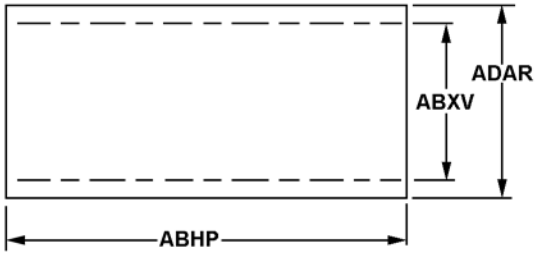
DRY, FLANGED, RELIEVED

7



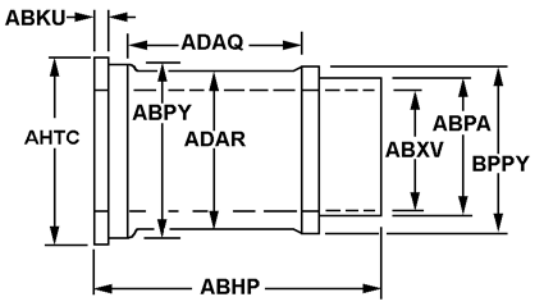
DRY, FLANGED, RELIEVED

8



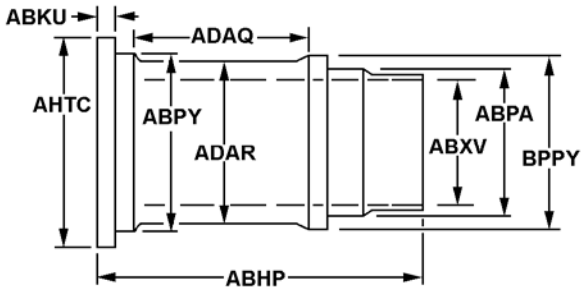
DRY, PLAIN

9



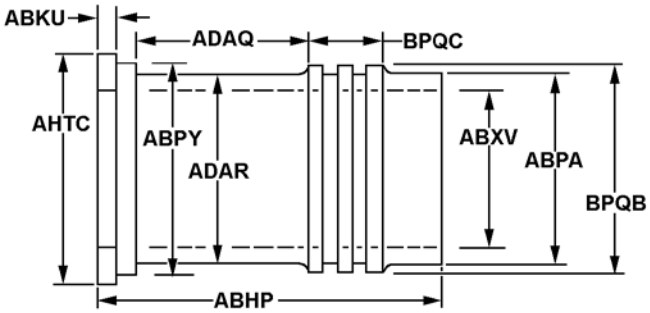
WET, SHOULDERED, FLANGED

10



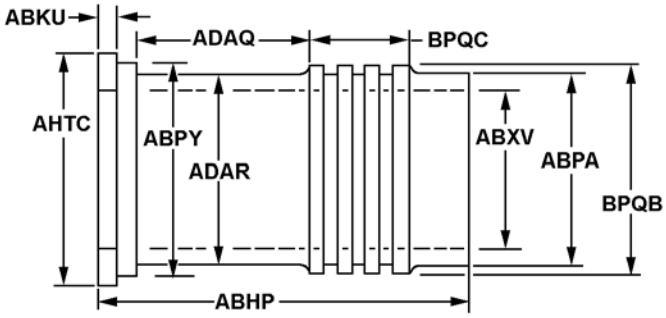
WET, SHOULDERED, FLANGED

11



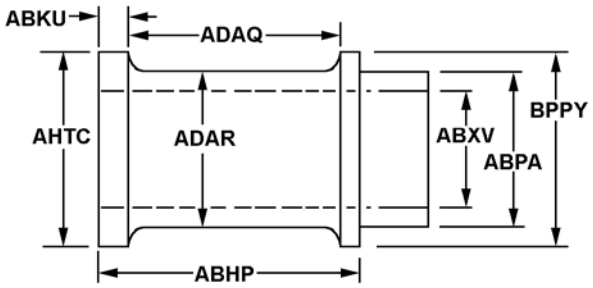
WET, SHOULDERED, TWO SEAL GROOVES

12



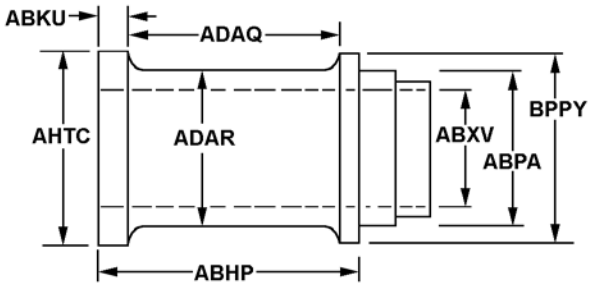
WET, SHOULDERED, THREE SEAL GROOVES

13



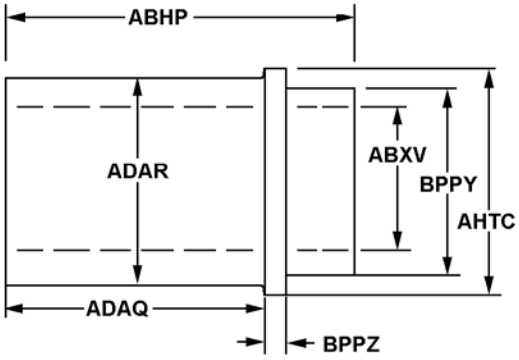
WET, FLANGED

14



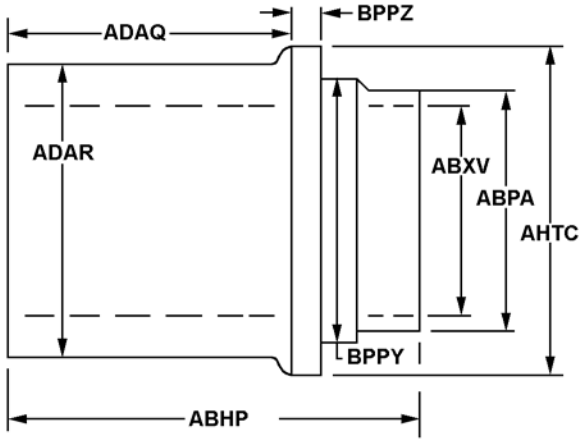
WET, FLANGED

15



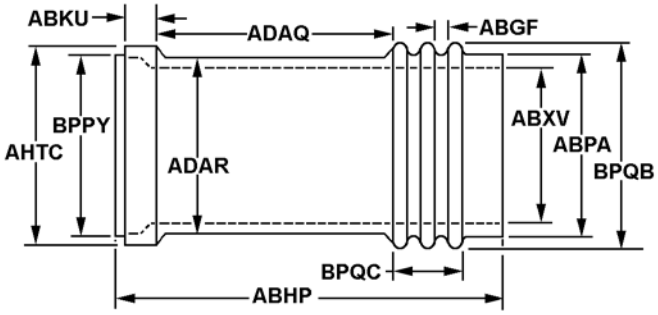
WET, FLANGED

16



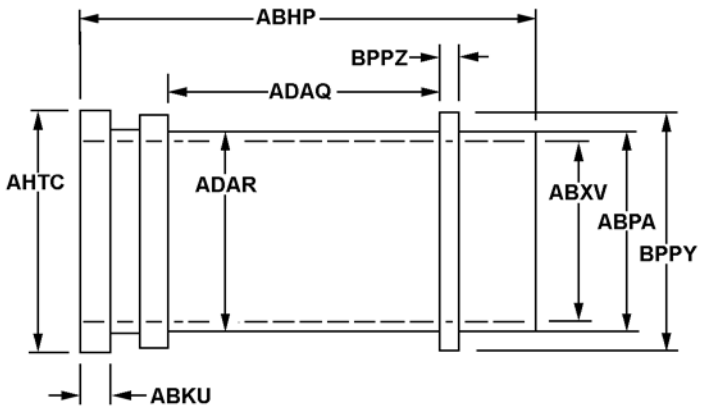
WET, FLANGED

17



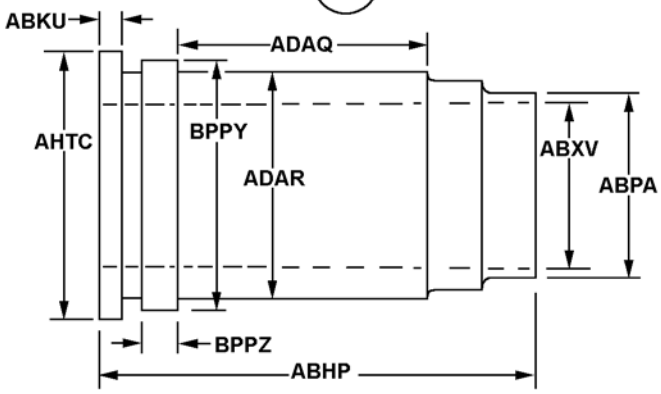
WET, TWO SEAL GROOVES

18



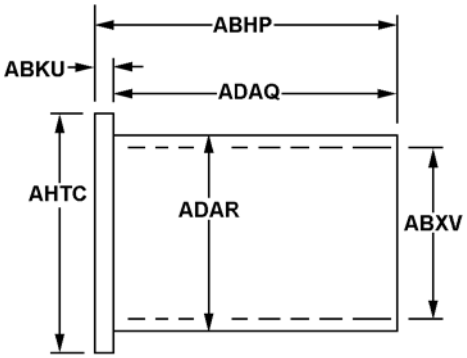
WET, RELIEVED, HANGED

19



WET, RELIEVED, SHOULDERED

20

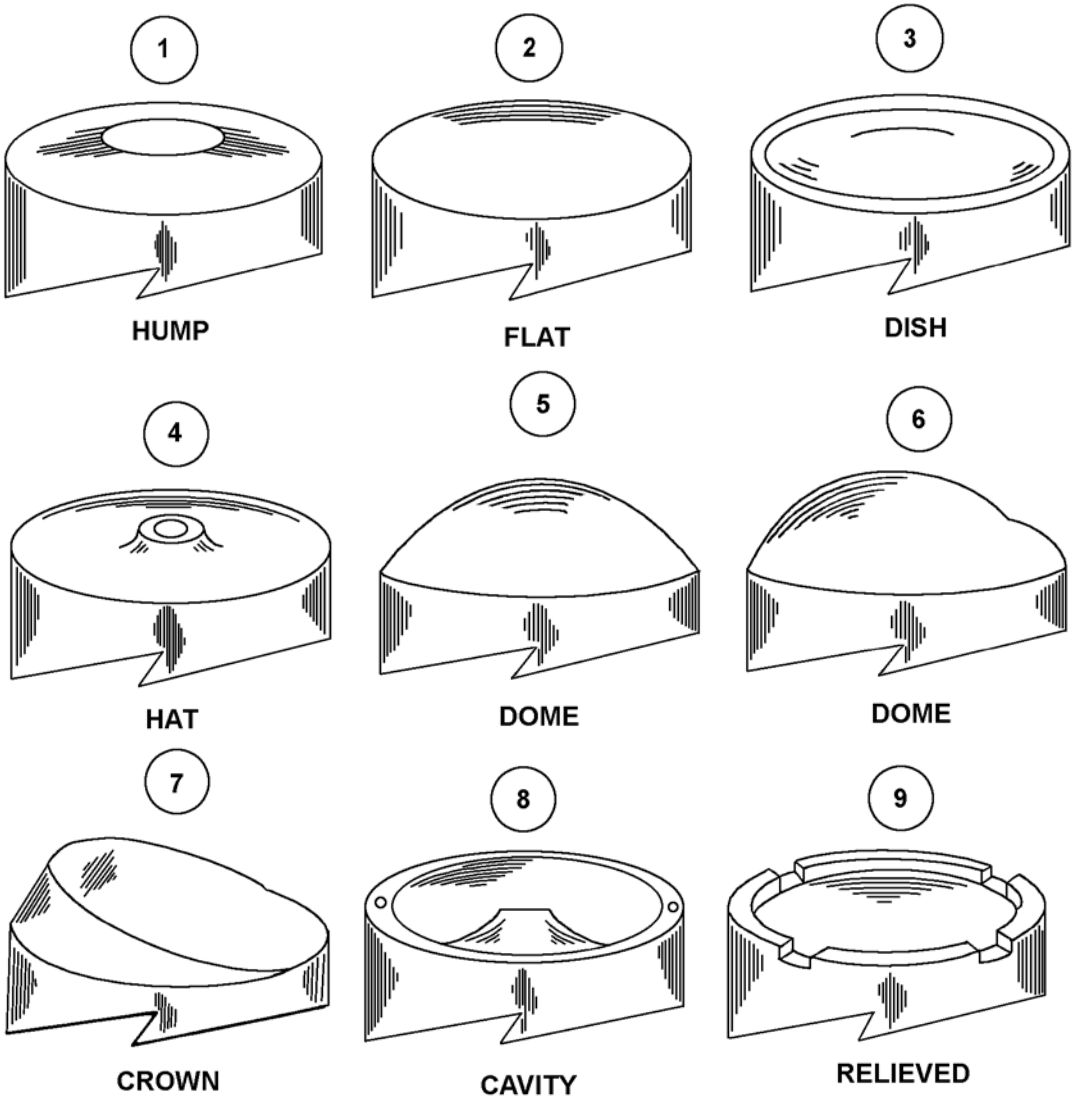


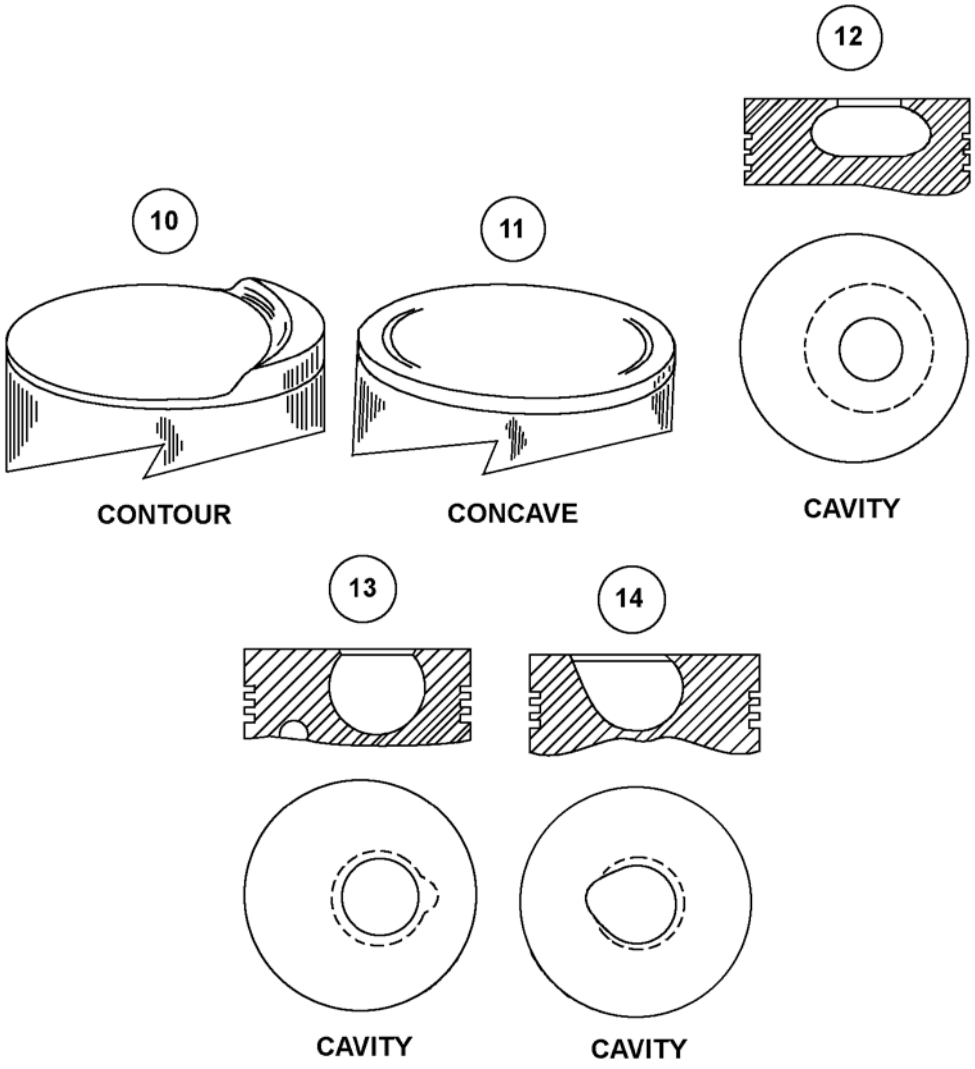
DRY, FLANGED

REFERENCE DRAWING GROUP B

ENGINE PISTON HEAD STYLES

(No Requirements)

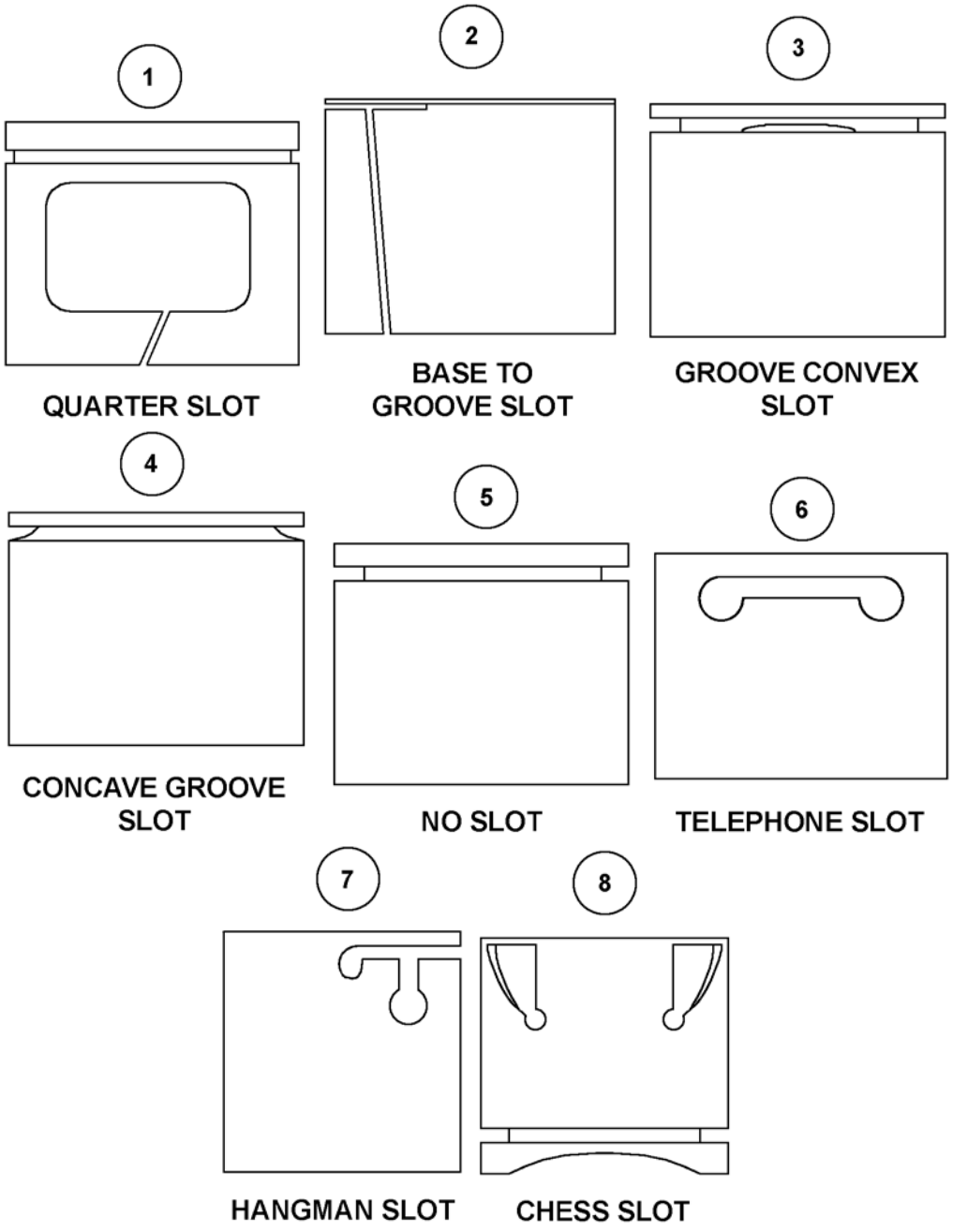



12
10
11
CONTOUR
CONCAVE
CAVITY
13
14
CAVITY
CAVITY

REFERENCE DRAWING GROUP C

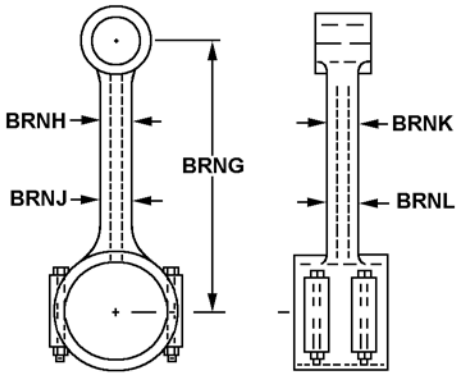
SLOT STYLES

(No Requirements)



REFERENCE DRAWING GROUP D

PISTON CONNECTING ROD STYLES



NOTE - THE ABOVE DRAWING IS ONLY FOR COMPUTING DIMENSIONS. DISREGARD THE CONFIGURATION FOR THE PISTON OR CRANKSHAFT CONNECTING ENDS AND BODY CROSS-SECTIONAL SHAPE.

REFERENCE DRAWING GROUP E Tables
PISTON CONNECTING END STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BQBPJAA1.438*; BQBPJLA36.5*; BQBPJAB1.430$$JAC1.450*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

MRC	Mode Code	Name of Dimension
ADNU	J	CORNER RADIUS
AGBS	J	FORK LENGTH
AJSD	J	FORK SPAN WIDTH
AQJR	J	END WIDTH
AXPW	J	END THICKNESS
BQBN	J	EDGE RADIUS
BQBP	J	END HOLE INSIDE DIAMETER
BQBQ	J	PISTON PIN ANCHOR HOLE DIAMETER
BQBR	J	CENTERLINE TO FORK HOLE DEPTH

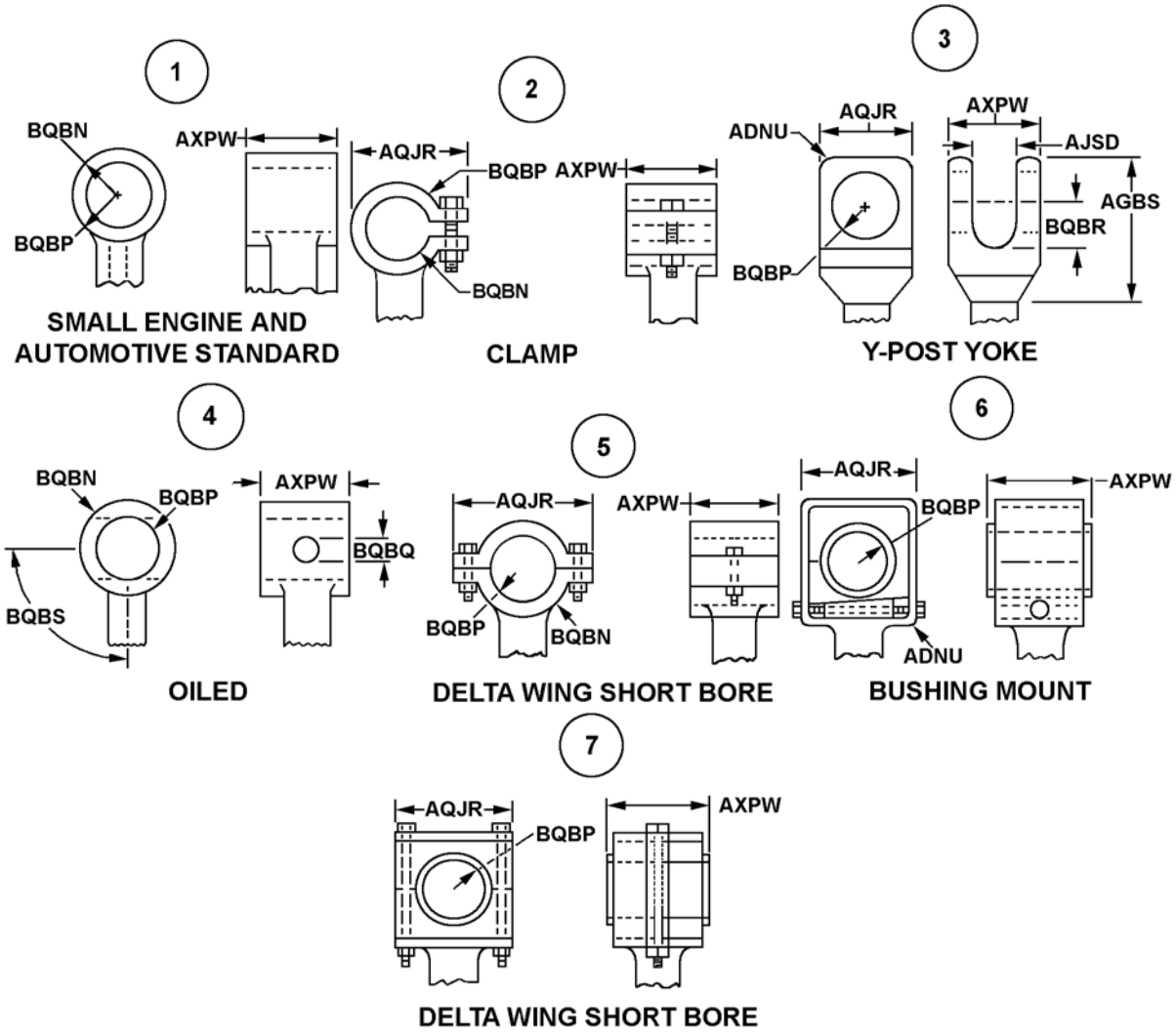
Enter the numeric value. (e.g., BQBSB1.2*)

NOTE: If other than 90 degrees, give largest angle.

MRC	Mode Code	Name of Dimension
BQBS	B	ANGLE BETWEEN ANCHOR PIN HOLE AND ROD CENTERLINES IN DEG

REFERENCE DRAWING GROUP E

PISTON CONNECTING END STYLES



REFERENCE DRAWING GROUP F Tables
SHAFT CONNECTING END STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BQCCJAA0.875*; BQCCJLA22.2*; BQCCJAB0.870$$JAC0.880*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

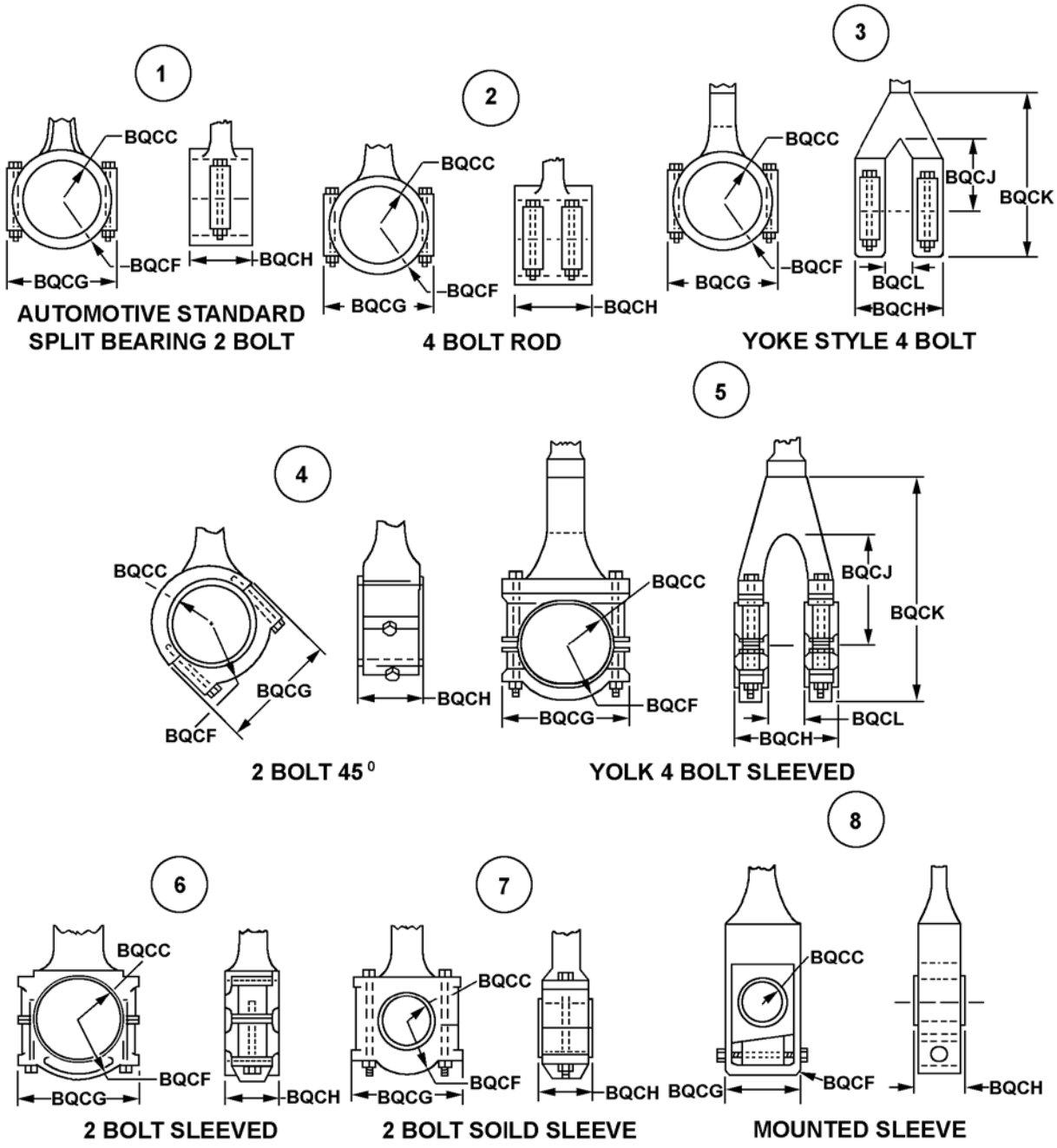
MRC	Mode Code	Name of Dimension
BQCC	J	SHAFT CONNECTING END HOLE INSIDE DIAMETER
BQCD	J	SHAFT CONNECTING END CORNER RADIUS
BQCF	J	SHAFT CONNECTING END EDGE RADIUS
BQCG	J	SHAFT CONNECTING END WIDTH
BQCH	J	SHAFT CONNECTING END THICKNESS
BQCJ	J	SHAFT CONNECTING END HOLE CENTERLINE TO FORK DEPTH
BQCK	J	SHAFT CONNECTING END FORK LENGTH
BQCL	J	SHAFT CONNECTING END FORK SPAN WIDTH
BQCM	J	SHAFT CONNECTING END KNUCKLE PIN HOLE CIRCLE DIAMETER
BQCP	J	SHAFT CONNECTING END KNUCKLE PIN HOLE DIAMETER

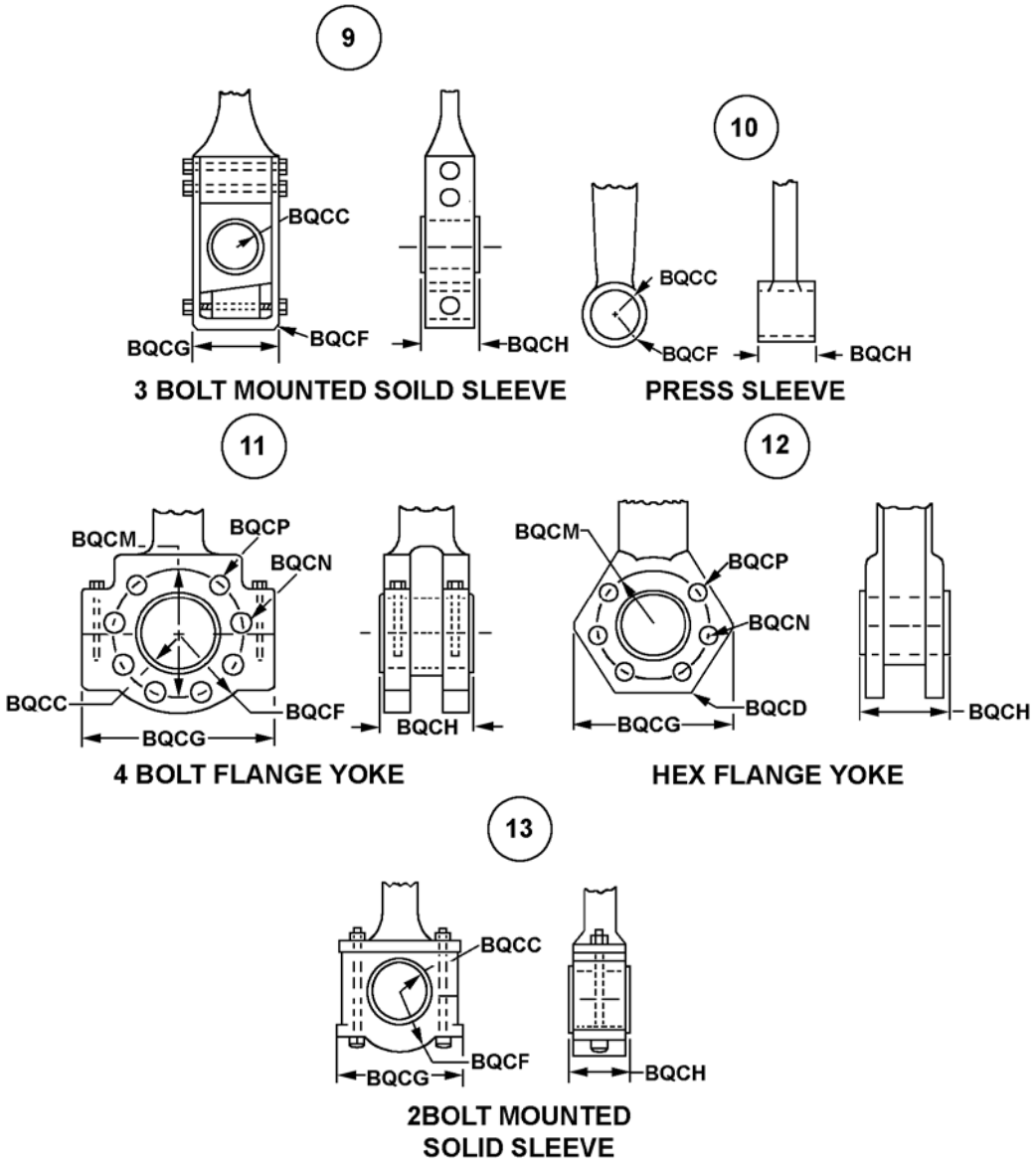
Enter the quantity. (e.g., BQCNA2*)

MRC	Mode Code	Name of Dimension
BQCN	A	SHAFT CONNECTING END KNUCKLE PIN HOLE QUANTITY

REFERENCE DRAWING GROUP F

SHAFT CONNECTING END STYLES

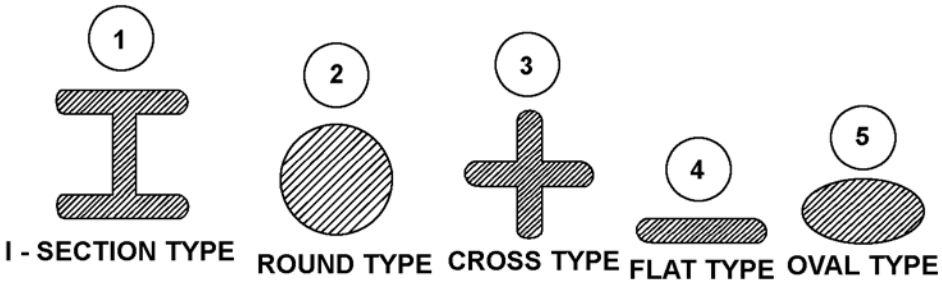



9
BQCC
BQCG
BQCF
BQCH
3 BOLT MOUNTED SOILD SLEEVE
10
BQCC
BQCF
BQCH
PRESS SLEEVE
11
BQCM
BQCP
BQCN
BQCC
BQCF
BQCG
BQCH
4 BOLT FLANGE YOKE
12
BQCM
BQCP
BQCN
BQCD
BQCG
BQCH
HEX FLANGE YOKE
13
BQCC
BQCF
BQCG
BQCH
2BOLT MOUNTED
SOLID SLEEVE

REFERENCE DRAWING GROUP G

CROSS SECTIONAL BODY SHAPE STYLES

(No Requirements)



REFERENCE DRAWING GROUP H Tables
VALVE STEM GUIDE STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABHPJAA2.750*; ABHPJLA69.9*; ABHPJAB2.740$$JAC2.760*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

MRC	Mode Code	Name of Dimension
AAVH	J	SHOULDER DIAMETER
AAVK	J	SHOULDER LENGTH
ABHP	J	OVERALL LENGTH
ABKV	J	OUTSIDE DIAMETER
ABMG	J	SHOULDER HEIGHT
ABND	J	TAPER LENGTH
ABQA	J	TAPER MINOR DIAMETER
AGQK	J	MAJOR DIAMETER LENGTH
ALAD	J	FLATS LENGTH
ASDB	J	WIDTH ACROSS FLATS
BQSH	J	AA END DIAMETER
BQSJ	J	BB END SHANK DIAMETER
BQSK	J	BB END CHAMFER LENGTH
BQSM	J	AA END CHAMFER LENGTH
BQSP	J	AA END RADIUS
BQSQ	J	BB END RADIUS
BQSR	J	SHOULDER FIRST FILLET RADIUS
BQST	J	SHOULDER SECOND FILLET RADIUS
BQSX	J	FILLET STEP RADIUS
BRQM	J	LENGTH FROM AA END TO LARGEST DIAMETER FACE

Enter the quantity. (e.g., AXHQA2*)

MRC	Mode Code	Name of Dimension
AXHQ	A	GROOVE QUANTITY

Enter the numeric value. (e.g., BQSLB1.2*)

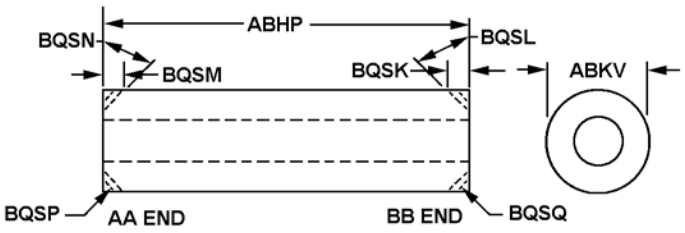
MRC	Mode Code	Name of Dimension
BQSN	B	AA END CHAMFER ANGLE IN DEG
BQSL	B	BB END CHAMFER ANGLE IN DEG

REFERENCE DRAWING GROUP H

VALVE STEM GUIDE STYLES

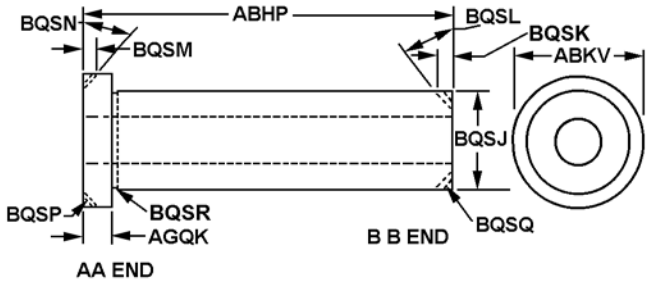
NOTES 1. THE FOLLOWING PRIORITY SHALL BE USED TO DETERMINE AA END FOR STYLE 1. First----Chamfered endSecond---End with smallest chamfer, if both ends are chamfered.Third----End with counterbore, if either or both ends are not chamfered or have identifical chamfers.Fourth---End with the smallest counterbore, if both ends are counterbored.2. Reply to applicable Master Requirements Codes for chamfers and radii.

1



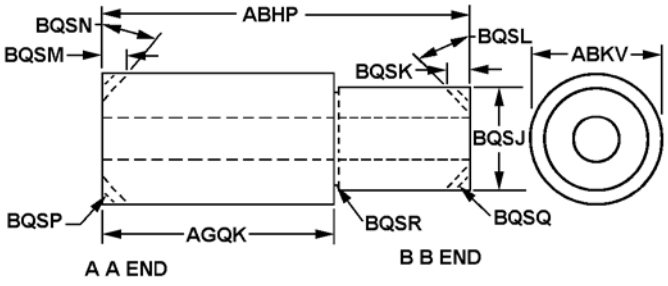
PLAIN

2



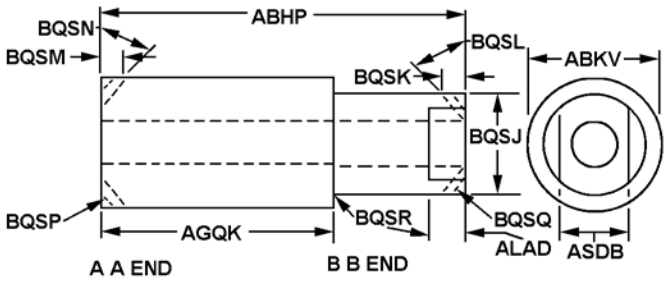
PLAIN FLANGED

3



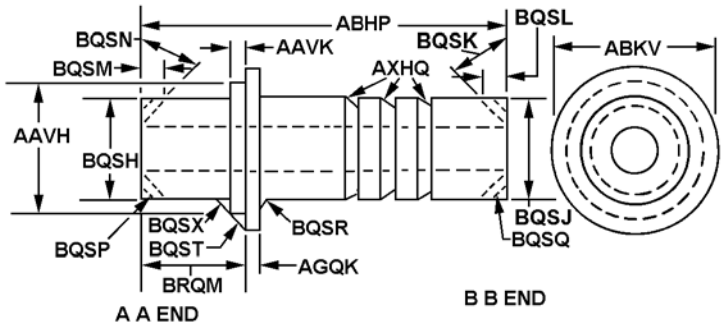
PLAIN, SHOULDERED

4



SHOULDERED W/FLATS SHANK END

5



STEPPED SHOULDER-GROOVED SHANK

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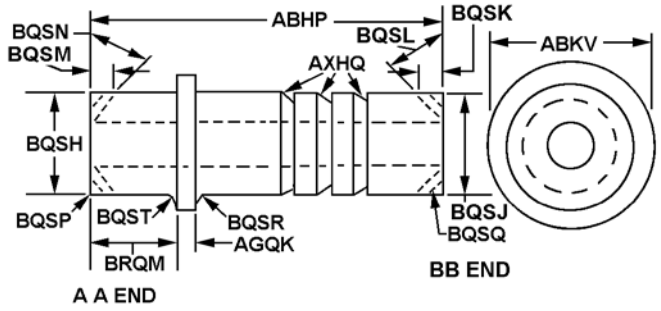
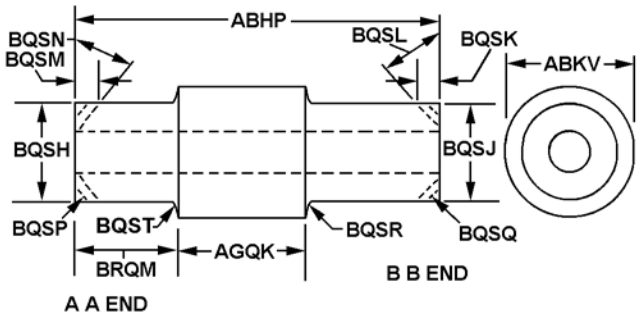


SHOULDERED-GROOVED SHANK

7



PLAIN-SHOULDERED

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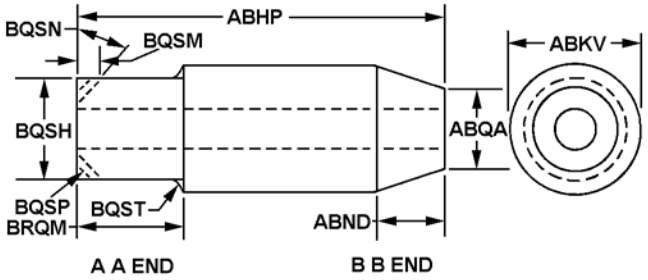

STEPPED-TAPERED SHANK END

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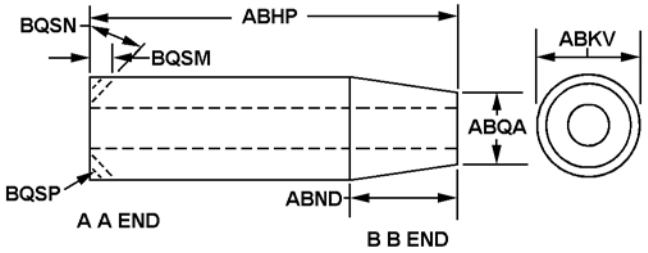
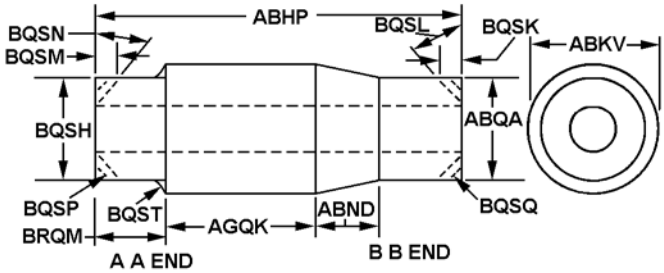


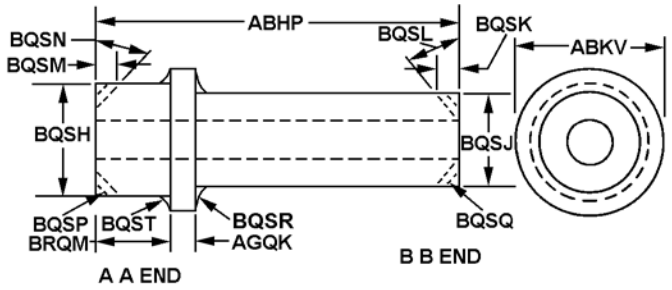
PLAIN-TAPERED SHANK END

10



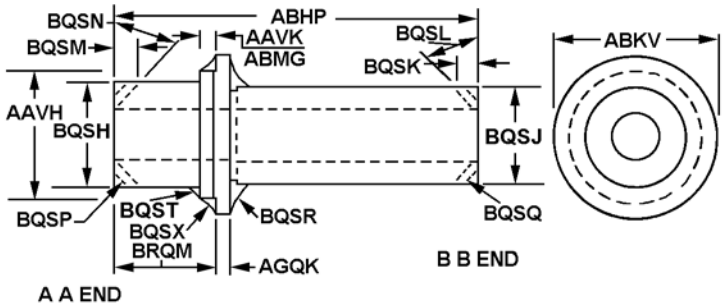
STEPPED-STEPPED TAPERED SHANK END

11



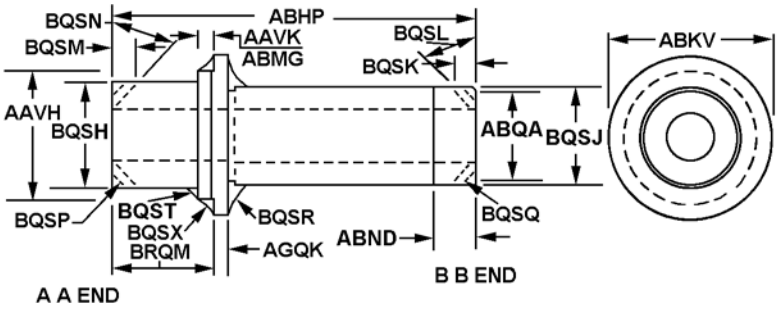
PLAIN-SHOULDERED

12



PLAIN-STEPPED SHOULDER

13



STEPPED SHOULDER-TAPERED SHANK END

REFERENCE DRAWING GROUP J Tables
POPPET VALVE TAPPET STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABHPJAA2.776*; ABHPJLA70.5*; ABHPJAB2.770$$JAC2.780*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

MRC	Mode Code	Name of Dimension
AAWX	J	CONCENTRIC HOLE DEPTH
AAWY	J	COUNTERBORE DIAMETER
AAWZ	J	COUNTERBORE DEPTH
AAXC	J	CONCENTRIC HOLE DIAMETER
ABHP	J	OVERALL LENGTH
ADAR	J	BODY OUTSIDE DIAMETER
ADBN	J	BOSS DIAMETER
AHXE	J	BODY GROOVE WIDTH
AJEF	J	BEVEL DEPTH
AJFL	J	SPHERICAL RADIUS
AKYX	J	FORK DEPTH
ALAD	J	FLATS LENGTH
ASDB	J	WIDTH ACROSS FLATS
BRGT	J	FORK HEIGHT
BRNM	J	CAM END DIAMETER
BRNN	J	CAM END LENGTH
BRNP	J	CROWN HEIGHT
BRNQ	J	CAM END HEIGHT
BRNR	J	DISTANCE FROM BOSS FACE TO CAM END
BRNS	J	CAM END WIDTH
BRNT	J	CAM END RADIUS
BRNW	J	BODY HOLE DIAMETER

MRC	Mode Code	Name of Dimension
BRNX	J	DISTANCE FROM BODY HOLE CENTER TO CAM END
BRNY	J	PUSH ROD END SPHERICAL RADIUS
BRNZ	J	PUSH ROD END SPHERICAL DIAMETER
BRPB	J	CUP SPHERICAL RADIUS
BRPC	J	CUP SPHERICAL DIAMETER
BRPD	J	CUP DEPTH
BRPF	J	FORK SLOT WIDTH
BRPG	J	FORK HOLE DIAMETER
BRPH	J	BODY GROOVE DIAMETER
BRPJ	J	DISTANCE FROM BODY GROOVE CENTER TO CAM END
BRPK	J	CUP END GROOVE DIAMETER
BRPL	J	CUP END GROOVE WIDTH
BRPM	J	DISTANCE FROM CUP END GROOVE CENTER TO CUP END

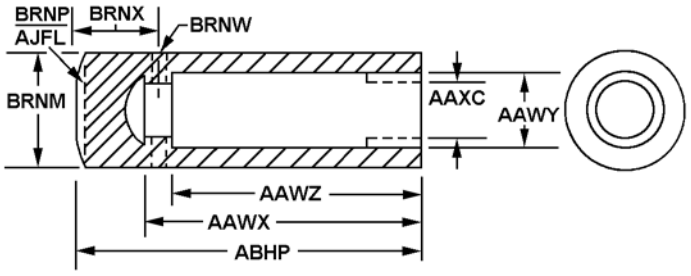
Enter the numeric value. (e.g.,, ATZGB1.2*)

MRC	Mode Code	Name of Dimension
ATZG	B	BEVEL ANGLE IN DEG

REFERENCE DRAWING GROUP J

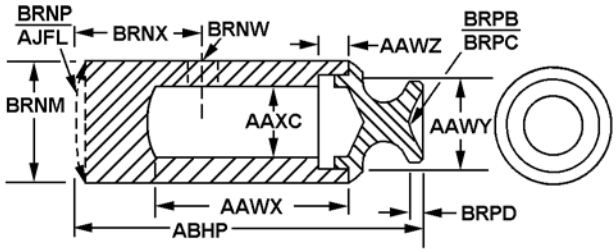
POPPET VALVE TAPPET STYLES

1



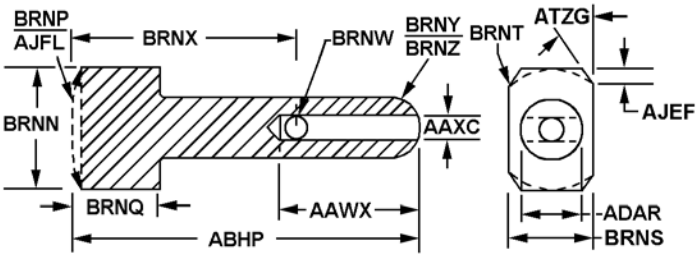
COUNTERBORED PUSH ROD END

2



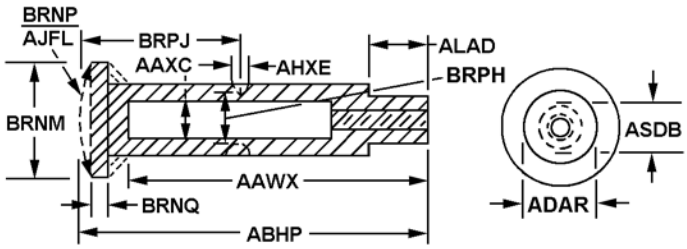
TWO PIECE, CUPPED PUSH ROD END

3



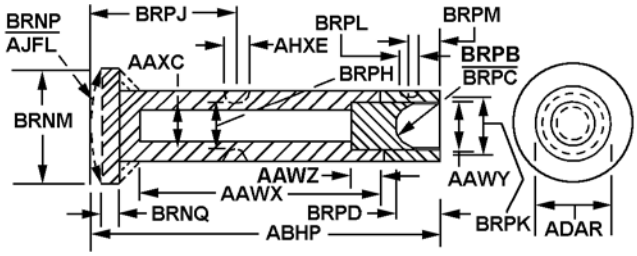
SPHERICAL PUSH ROD END W/ CONCENTRIC HOLE

4



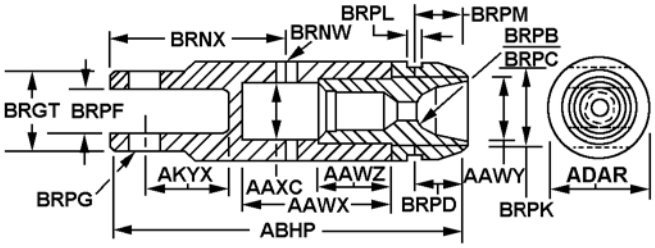
INTERNAL THREAD AND WRENCHING FLATS PUSH ROD END

5



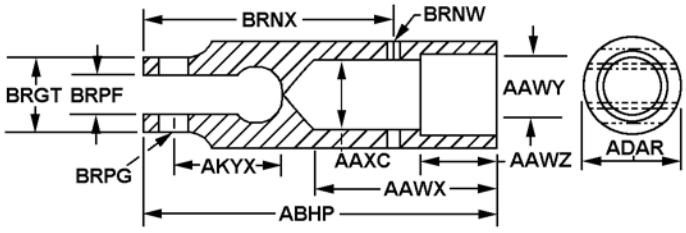
TWO PIECE, CUPPED PUSH ROD END

6



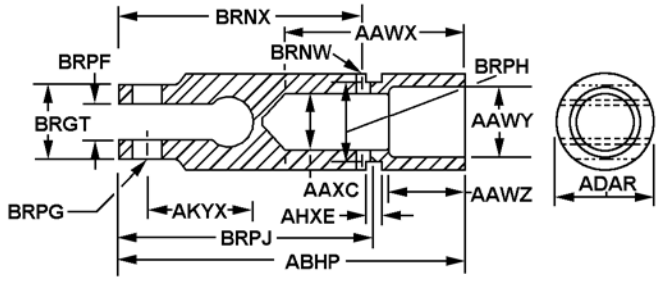
TWO PIECE, CUPPED PUSH ROD ENDS, CLEVIS CAM END

7



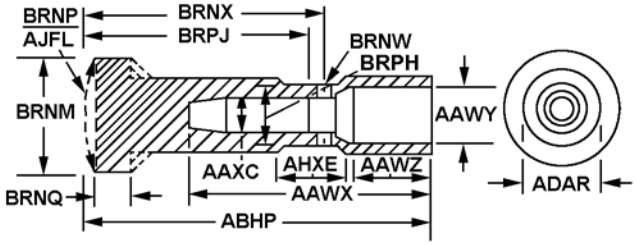
COUNTERBORED PUSH ROD END, CLEVIS CAM END

8



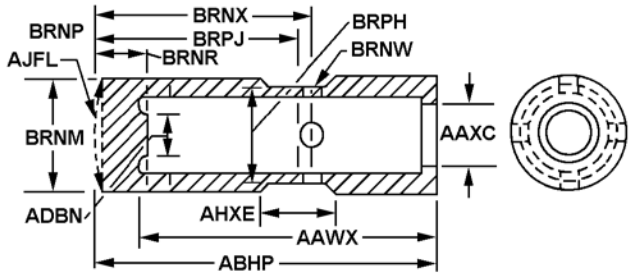
COUNTERBOARD PUSH ROD END, CLEVIS CAM END

9



COUNTERBORED PUSH ROD END

10



CHAMFERED, CONCENTRIC HOLE PUSH ROD END

REFERENCE DRAWING GROUP K Tables
ENGINE POPPET VALVE PUSH ROD END STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable I/SAC from Appendix C, Table 1, followed by the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AAVK2CAJAB0.125$$JAC0.127*; AAVK2CAJLA28.5*;

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

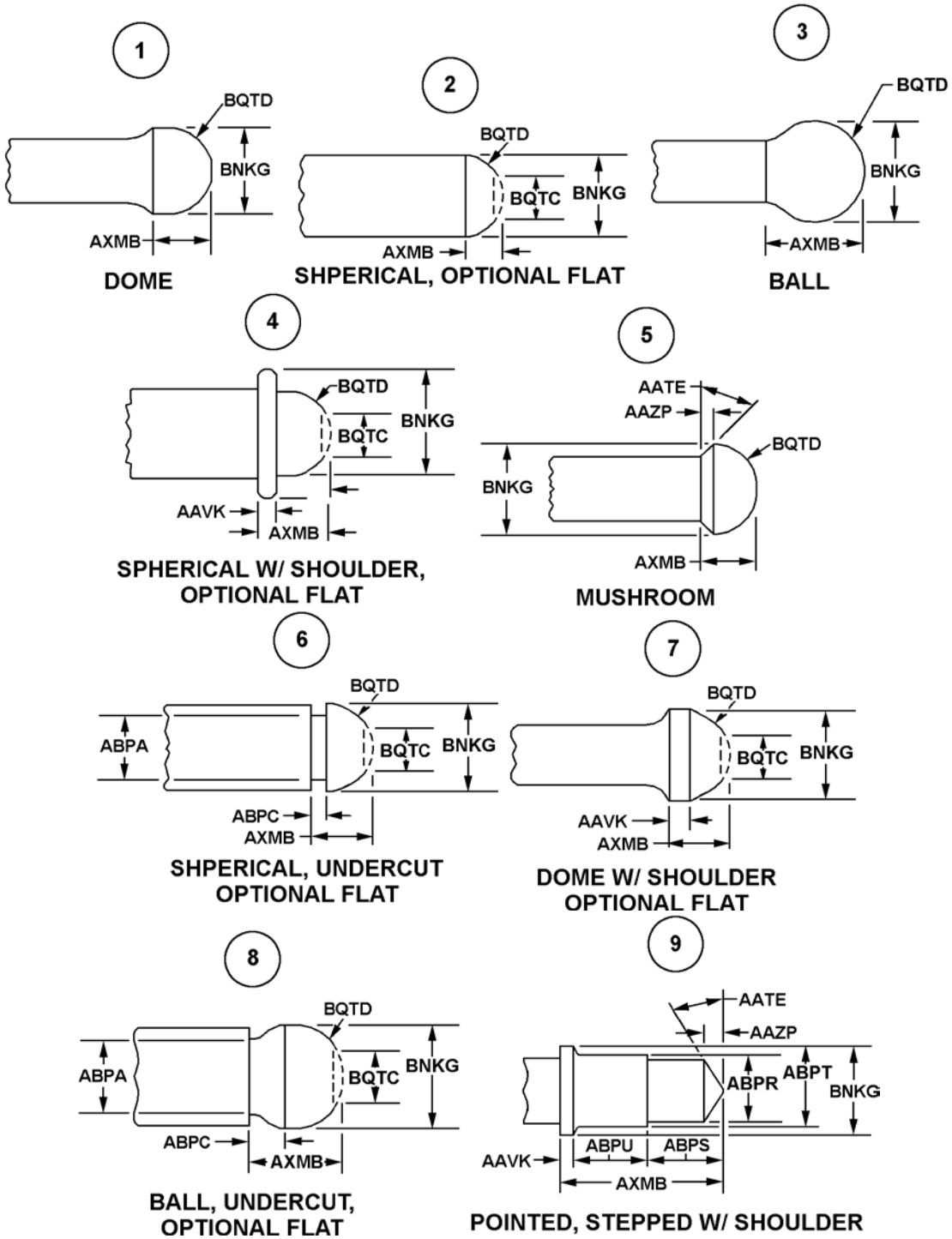
MRC	Mode Code	Name of Dimension
AAVK	J	SHOULDER LENGTH
AAZP	J	CHAMFER LENGTH
ABPA	J	UNDERCUT DIAMETER
ABPC	J	UNDERCUT WIDTH
ABPR	J	FIRST STEP DIAMETER
ABPS	J	FIRST STEP LENGTH
ABPT	J	SECOND STEP DIAMETER
ABPU	J	SECOND STEP LENGTH
AXMB	J	END LENGTH
BNKG	J	END LARGEST DIAMETER
BQTC	J	FLAT DIAMETER
BQTD	J	END SPHERICAL RADIUS
BQTF	J	SPHERICAL RADIUS DEPTH

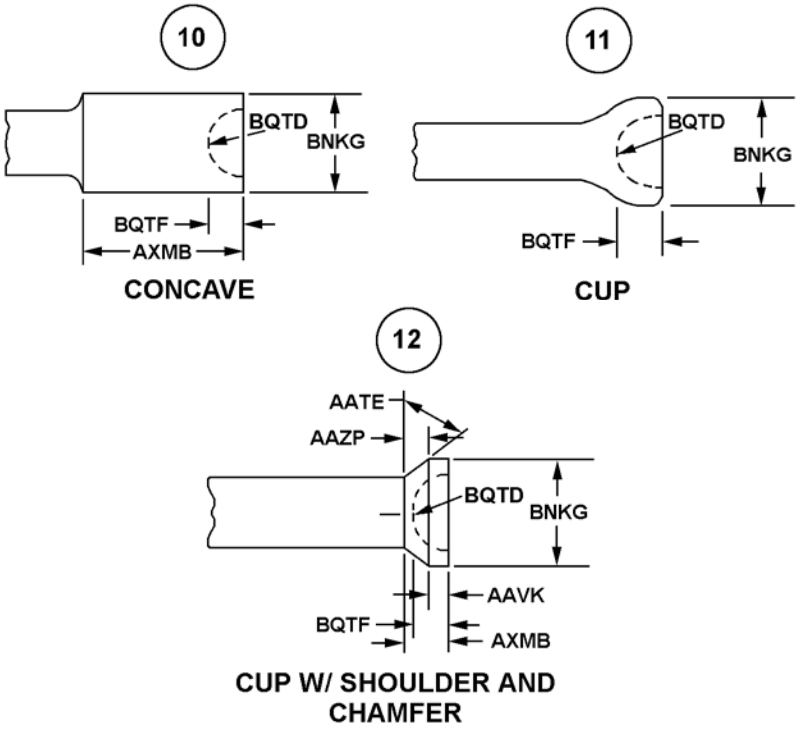
Enter the applicable I/SAC from Appendix C, Table 1, followed by the numeric value. (e.g., AATE2CAB50.5*)

MRC	Mode Code	Name of Dimension
AATE	B	CHAMFER ANGLE IN DEG

REFERENCE DRAWING GROUP K

ENGINE POPPET VALVE PUSH ROD END STYLES




10
BQTD
BNKG
BQTF
AXMB
CONCAVE
11
BQTD
BNKG
BQTF
CUP
12
AATE
AAZP
BQTD
BNKG
AAVK
BQTF
AXMB
CUP W/ SHOULDER AND
CHAMFER

REFERENCE DRAWING GROUP L Tables
CIRCULAR SPLIT VALVE SPRING RETAINER LOCK STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AGWMJAA0.791*; AGWMJLA20.1*; AGWMJAB0.785$$JAC0.797*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

MRC	Mode Code	Name of Dimension
AAZP	J	CHAMFER LENGTH
ABKU	J	FLANGE THICKNESS
ABKW	J	OVERALL HEIGHT
AGRU	J	LARGEST INSIDE DIAMETER
AGWL	J	SMALLEST OUTSIDE DIAMETER
AGWM	J	LARGEST OUTSIDE DIAMETER
ALZQ	J	FIRST GROOVE WIDTH
ALZR	J	SECOND GROOVE WIDTH
BQTG	J	LARGEST OUTSIDE WIDTH
BQTH	J	LARGEST TOP COUNTERSINK DIAMETER
BQTJ	J	LARGEST BOTTOM COUNTERSINK DIAMETER
BQTQ	J	TOP COUNTERBORE DEPTH
BQTR	J	BOTTOM COUNTERBORE DEPTH
BQTS	J	INSIDE DIAMETER TOP RADIUS
BQTT	J	INSIDE DIAMETER BOTTOM RADIUS
BRPN	J	FIRST RIDGE RADIUS
BRPP	J	SECOND RIDGE RADIUS
BRPQ	J	THIRD RIDGE RADIUS
BRPR	J	DISTANCE BETWEEN FIRST AND SECOND RIDGE CENTERS
BRPS	J	DISTANCE BETWEEN FIRST AND SECOND GROOVE CENTERS
BRPT	J	DISTANCE BETWEEN SECOND AND THIRD RIDGE CENTERS
BRPW	J	DISTANCE BETWEEN SECOND AND THIRD GROOVE CENTERS

MRC	Mode Code	Name of Dimension
BRPX	J	DISTANCE FROM BOTTOM TO FIRST RIDGE CENTER
BRPY	J	DISTANCE FROM BOTTOM TO FIRST GROOVE CENTER
BRPZ	J	FIRST RIDGE WIDTH
BRQB	J	SECOND RIDGE WIDTH
BRQC	J	THIRD RIDGE WIDTH
BRQD	J	HEIGHT TO SHOULDER
BRQG	J	DISTANCE FROM BOTTOM TO RADIUS AT INSIDE DIAMETER
BRQK	J	RADIUS AT TOP OUTSIDE DIAMETER

Enter the applicable Reply Code from Table below, followed by the numeric value. (e.g., BKKZJA0.250*; BKKZJL6.3*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

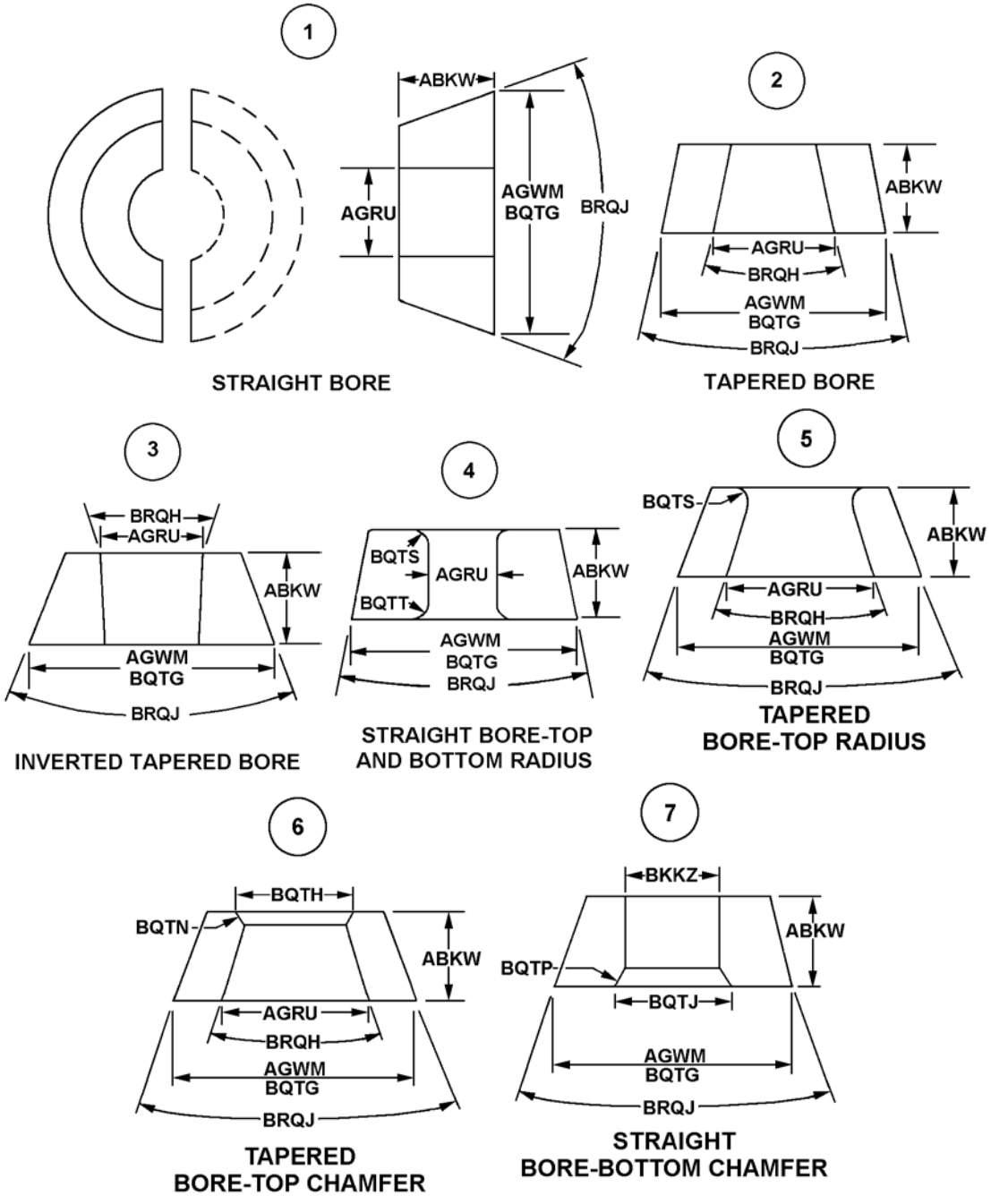
MRC	Mode Code	Name of Dimension
BKKZ	J	MINIMUM INSIDE DIAMETER

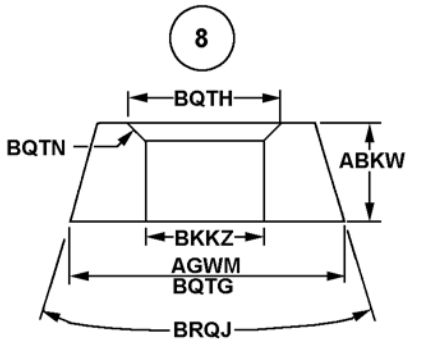
Enter the numeric value. (e.g., BQTKB45.0*)

MRC	Mode Code	Name of Dimension
BQTK	B	LARGEST OUTSIDE DIAMETER CHAMBER ANGLE IN DEG
BQTL	B	SMALLEST OUTSIDE DIAMETER CHAMFER ANGLE IN DEG
BQTN	B	TOP COUNTERSINK INCLUDED ANGLE IN DEG
BQTP	B	BOTTOM COUNTERSINK INCLUDED ANGLE IN DEG
BRQH	B	INSIDE INCLUDED ANGLE IN DEG
BRQJ	B	OUTSIDE INCLUDED ANGLE IN DEG

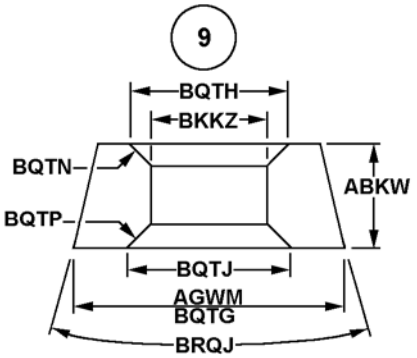
REFERENCE DRAWING GROUP L

CIRCULAR SPLIT VALVE SPRING RETAINER LOCK STYLES

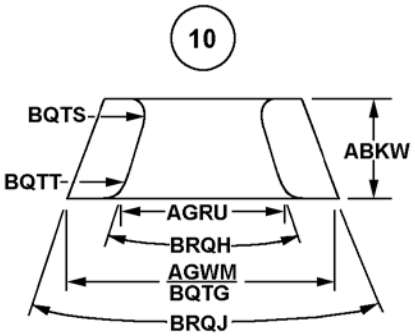




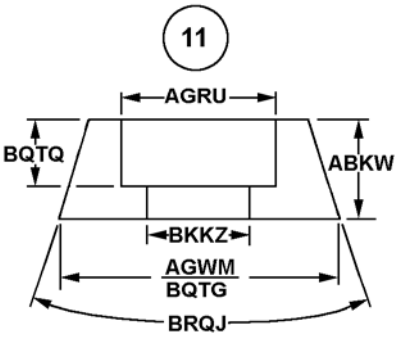
STRAIGHT BORE-TOP CHAMFER



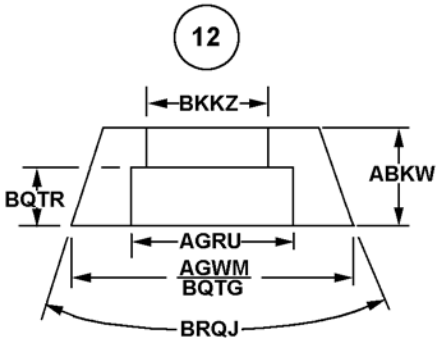
STRAIGHT BORE-TOP AND BOTTOM CHAMFER



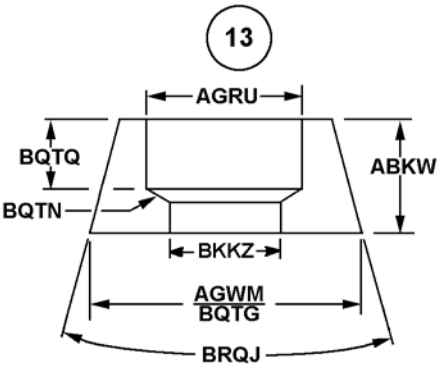
TAPERED BORE-TOP AND BOTTOM RADIUS



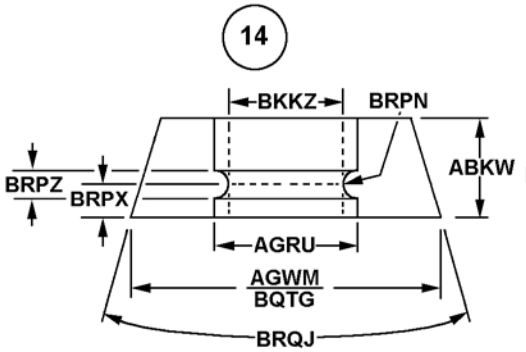
STRAIGHT BORE-TOP COUNTERBORE



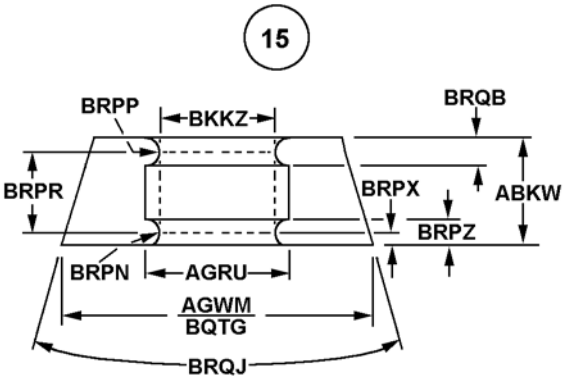
STRAIGHT BORE-BOTTOM COUNTERBORE



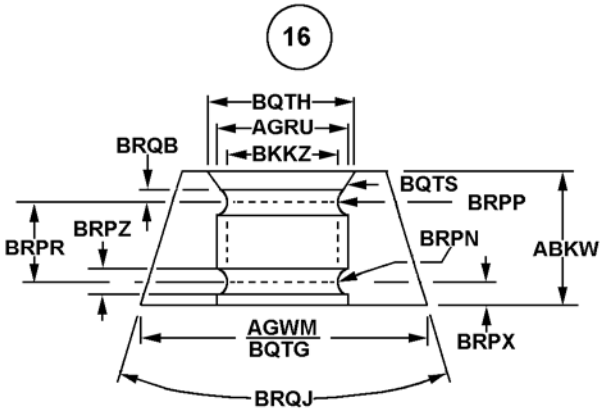
STRAIGHT BORE-TOP COUNTERBORED W/ CHAMFER



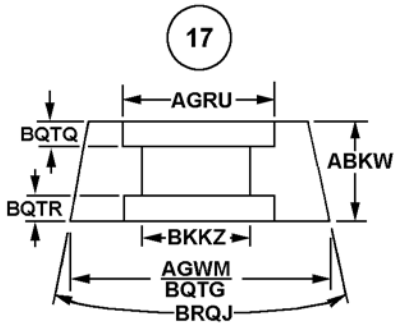
STRAIGHT BORE W/ ONE RIDGE



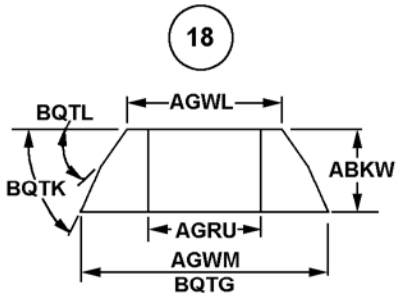
STRAIGHT BORE W/ TWO RIDGES



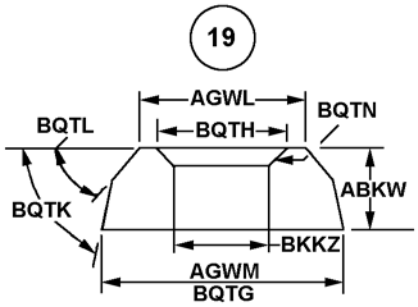
STRAIGHT BORE W/ TWO RIDGES-TOP RADIUS



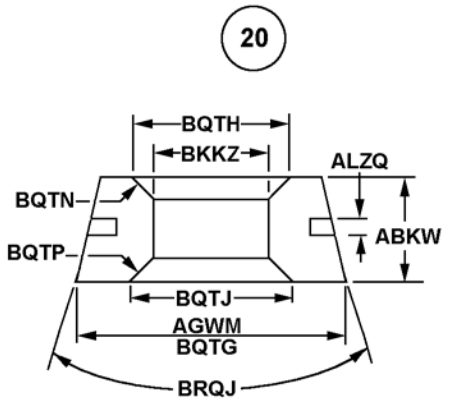
STRAIGHT BORE-TOP AND BOTTOM COUNTERBORE



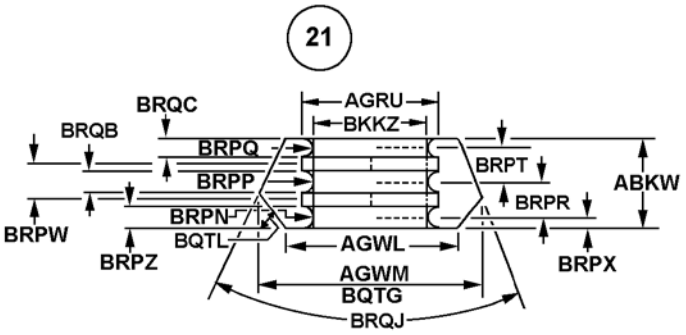
STRAIGHT BORE-TOP OUTER CHAMFER



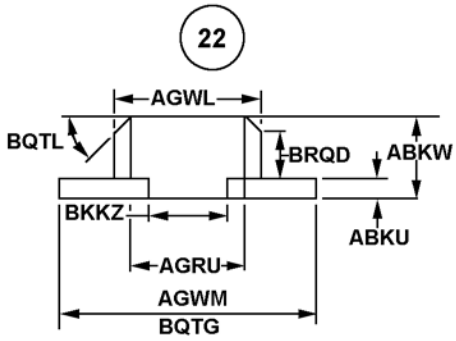
STRAIGHT BORE-TOP OUTER AND INNER CHAMFER



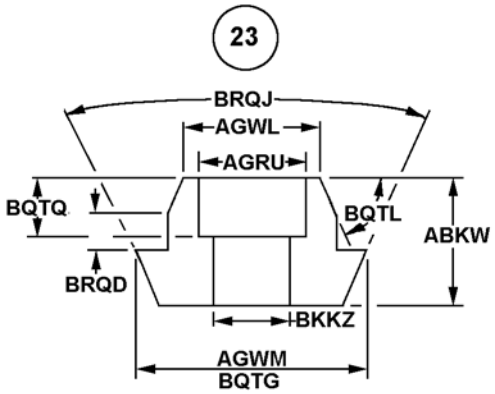
STRAIGHT BORE-TOP AND BOTTOM CHAMFER-OUTER GROOVE



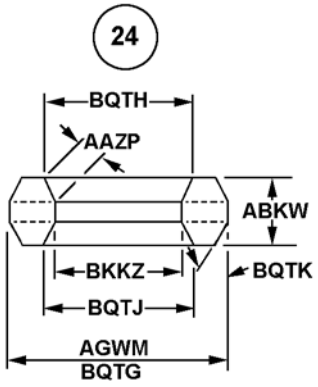
STRAIGHT BORE - THREE RIDGES - BOTTOM OUTER CHAMFER



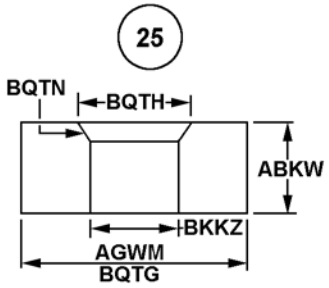
TOP COUNTERBORE-TOP OUTER CHAMFER-BOTTOM FLANGE



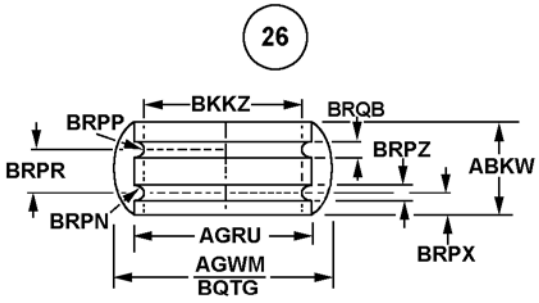
BOTTOM COUNTERBORE-BOTTOM OUTER CHAMFER-UNDERCUT



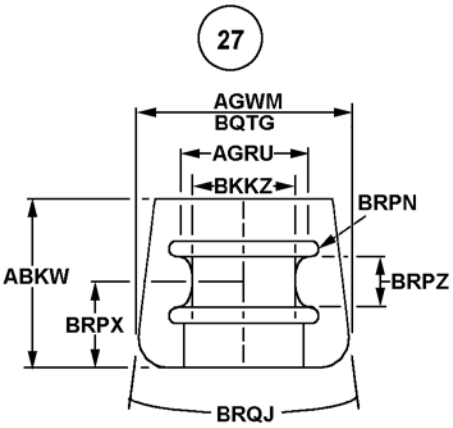
STRAIGHT BORE-ALL CORNERS CHAMFERED-STRAIGHT SIDES



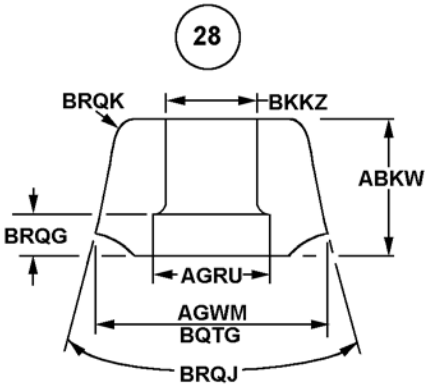
STRAIGHT COUNTERSINK BORE-STRAIGHT SIDES



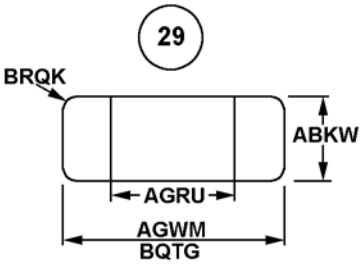
STRAIGHT BORE W/TWO RIDGES - ROUNDED SIDES



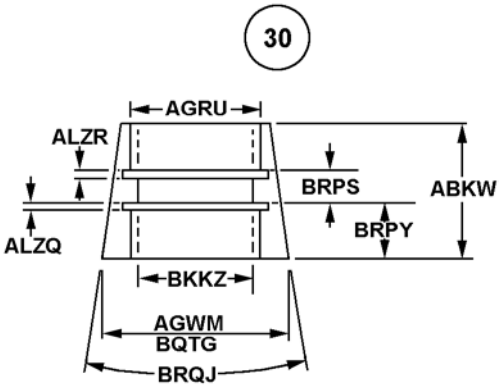
STRAIGHT BORE W/ RIDGE AND TWO GROOVES - LOWER OUTSIDE RADIUS



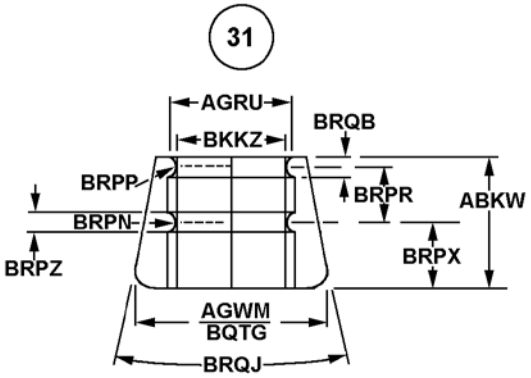
STRAIGHT BORE - BOTTOM COUNTERBORE



STRAIGHT BORE-STRAIGHT SIDES W/ ROUNDED CORNERS

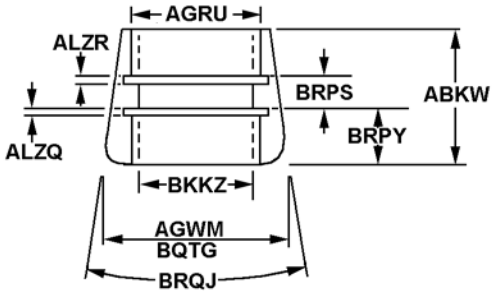


STRAIGHT BORE W/ TWO GROOVES



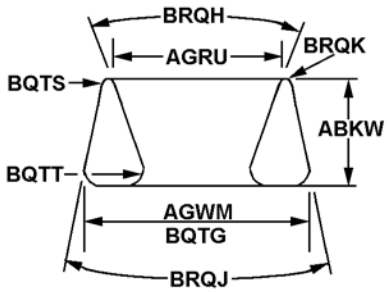
STRAIGHT BORE W/ TWO RIDGES - LOWER OUTSIDE RADIUS

32



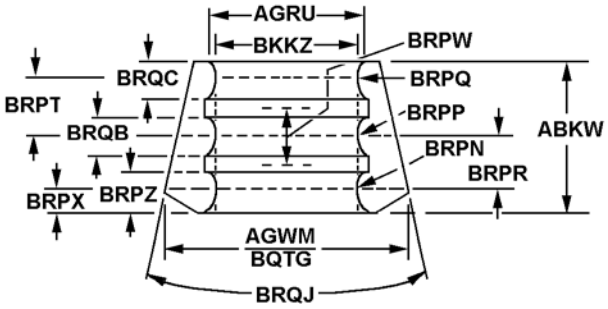
STRAIGHT BORE
W/ TWO GROOVES -
LOWER OUTSIDE RADIUS

33



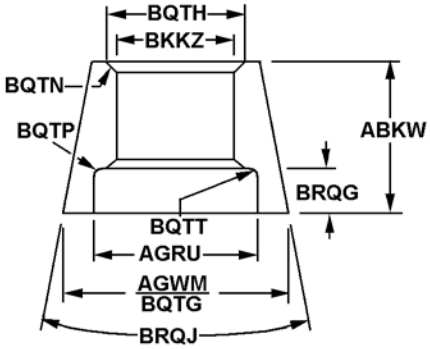
INVERTED TAPERED BORE -
ALL CORNERS ROUNDED

34



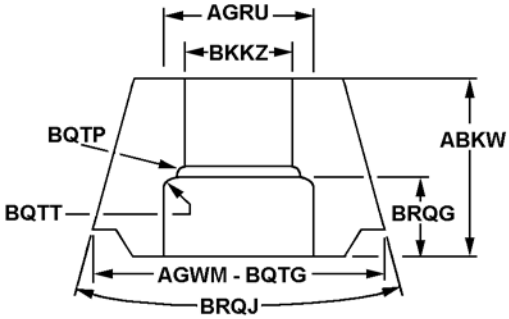
STRAIGHT BORE W/ THREE
RIDGES-ANGLED BOTTOM

35



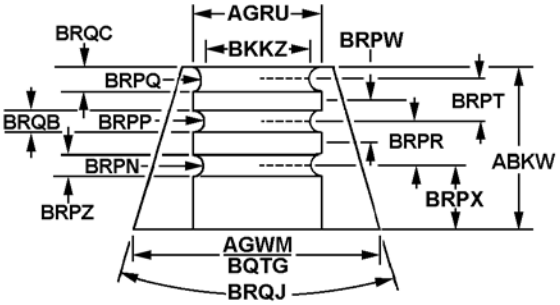
STRAIGHT BORE -
TOP CHAMFER -
BOTTOM COUNTERBORED
AND COUNTERSUNK

36



STRAIGHT BORE -
BOTTOM COUNTERBORED
AND COUNTERSUNK

37



STRAIGHT BORE
W/ THREE RIDGES

REFERENCE DRAWING GROUP M Tables
SLOTTED ONE PIECE VALVE SPRING RETAINER LOCK STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABKWJAA0.750*; ABKWJLA19.0*; ABKWJAB0.740$$JAC0.760*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

MRC	Mode Code	Name of Dimension
ABKU	J	FLANGE THICKNESS
ABKW	J	OVERALL HEIGHT
AGRU	J	LARGEST INSIDE DIAMETER
AGWL	J	SMALLEST OUTSIDE DIAMETER
AGWM	J	LARGEST OUTSIDE DIAMETER
BQTG	J	LARGEST OUTSIDE WIDTH
BRQD	J	HEIGHT TO SHOULDER

Enter the numeric value. (e.g., BQTLB1.2*)

MRC	Mode Code	Name of Dimension
BQTL	B	SMALLEST OUTSIDE DIAMETER CHAMFER ANGLE IN DEG

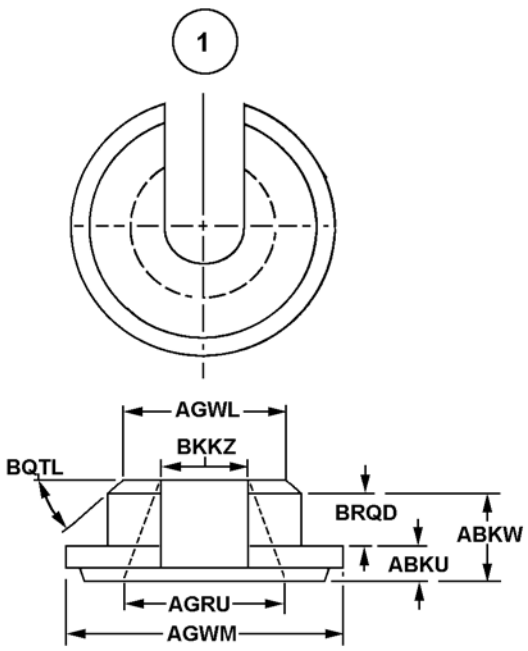
Enter the applicable Reply Code from the table below, followed by the numeric value. (e.g., BKKZJA0.250*; BKKZJL6.3*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

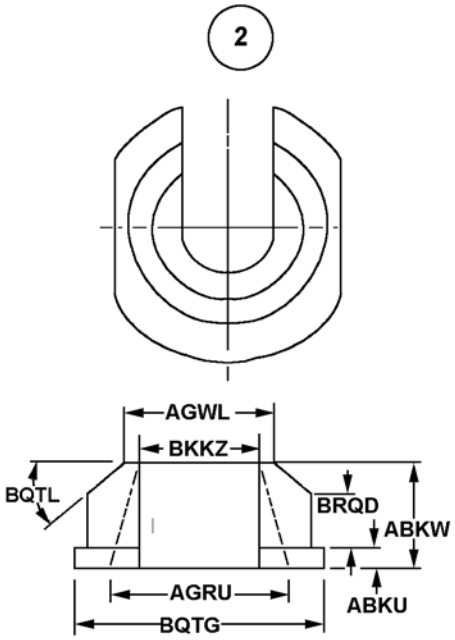
MRC	Mode Code	Name of Dimension
BKKZ	J	MINIMUM INSIDE DIAMETER

REFERENCE DRAWING GROUP M

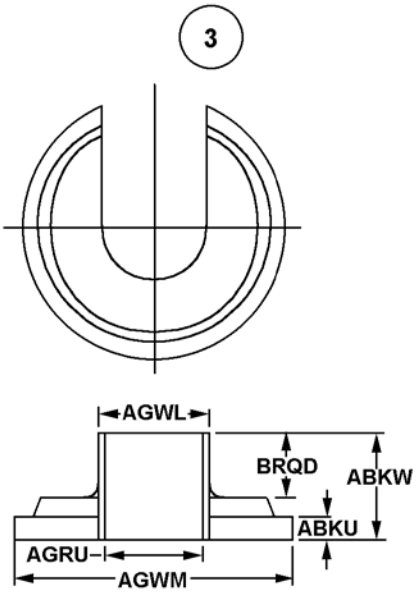
SLOTTED ONE PIECE VALVE SPRING RETAINER LOCK STYLES



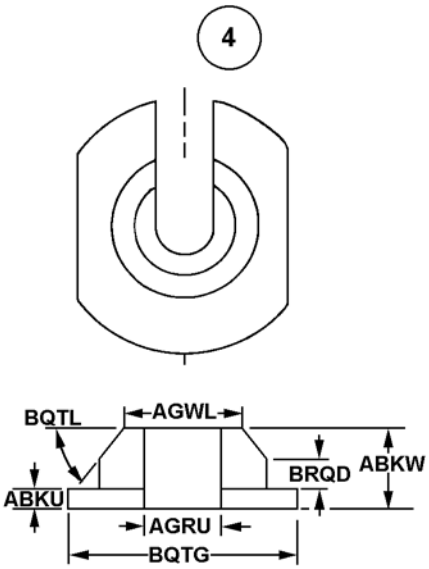
ROUND FLANGE -
TAPERED BORE



FLATTED FLANGE -
TAPERED BORE



ROUND STEPPED FLANGE-
STRAIGHT BORE



FLATTED FLANGE-
STRAIGHT BORE

REFERENCE DRAWING GROUP N Tables
TWO PIECE SPECIAL VALVE SPRING RETAINER LOCK STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AGWMJAA0.750*; AGWMJLA19.0*; AGWMJAB0.740$$JAC0.760*)

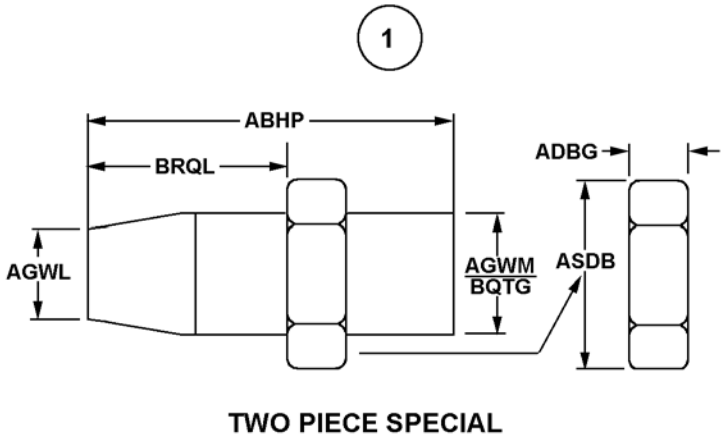
REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

MRC	Mode Code	Name of Dimension
ABHP	J	OVERALL LENGTH
ADBG	J	NUT THICKNESS
AGWL	J	SMALLEST OUTSIDE DIAMETER
AGWM	J	LARGEST OUTSIDE DIAMETER
ASDB	J	WIDTH ACROSS FLATS
BQTG	J	LARGEST OUTSIDE WIDTH
BRQL	J	LENGTH TO SHOULDER

REFERENCE DRAWING GROUP N

TWO PIECE SPECIAL VALVE SPRING RETAINER LOCK STYLES



REFERENCE DRAWING GROUP P Tables
ONE PIECE FLAT VALVE SPRING RETAINER LOCK STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABRYJAA1.375*; ABRYJLA34.9*; ABRYJAB1.360$$JAC1.390*)

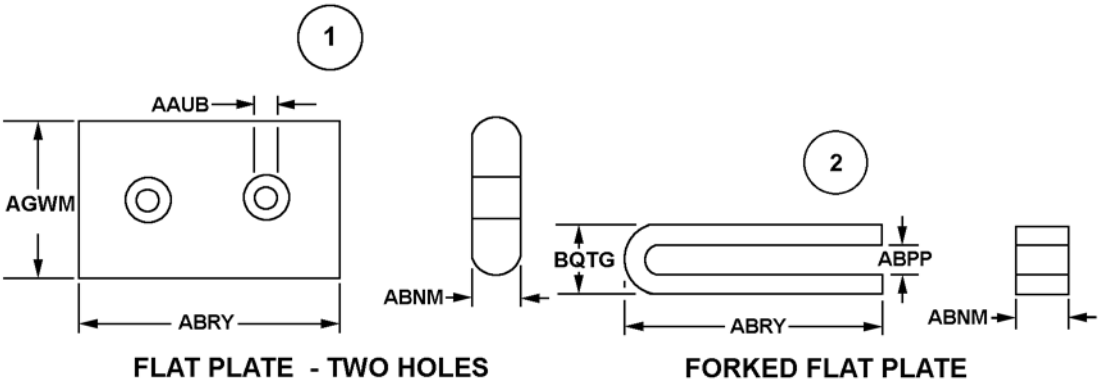
REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

MRC	Mode Code	Name of Dimension
AAUB	J	HOLE DIAMETER
ABNM	J	THICKNESS
ABPP	J	OPENING WIDTH
ABRY	J	LENGTH
AGWM	J	LARGEST OUTSIDE DIAMETER
BQTG	J	LARGEST OUTSIDE WIDTH

REFERENCE DRAWING GROUP P

ONE PIECE FLAT VALVE SPRING RETAINER LOCK STYLES



REFERENCE DRAWING GROUP Q Tables
ENGINE POPPET VALVE ROTOR STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABKWJAA0.536*; ABKWJLA13.6*; ABKWJAB0.531$$JAC0.541*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

NOTE: For MRC ABXV, if tapered, give largest diameter.

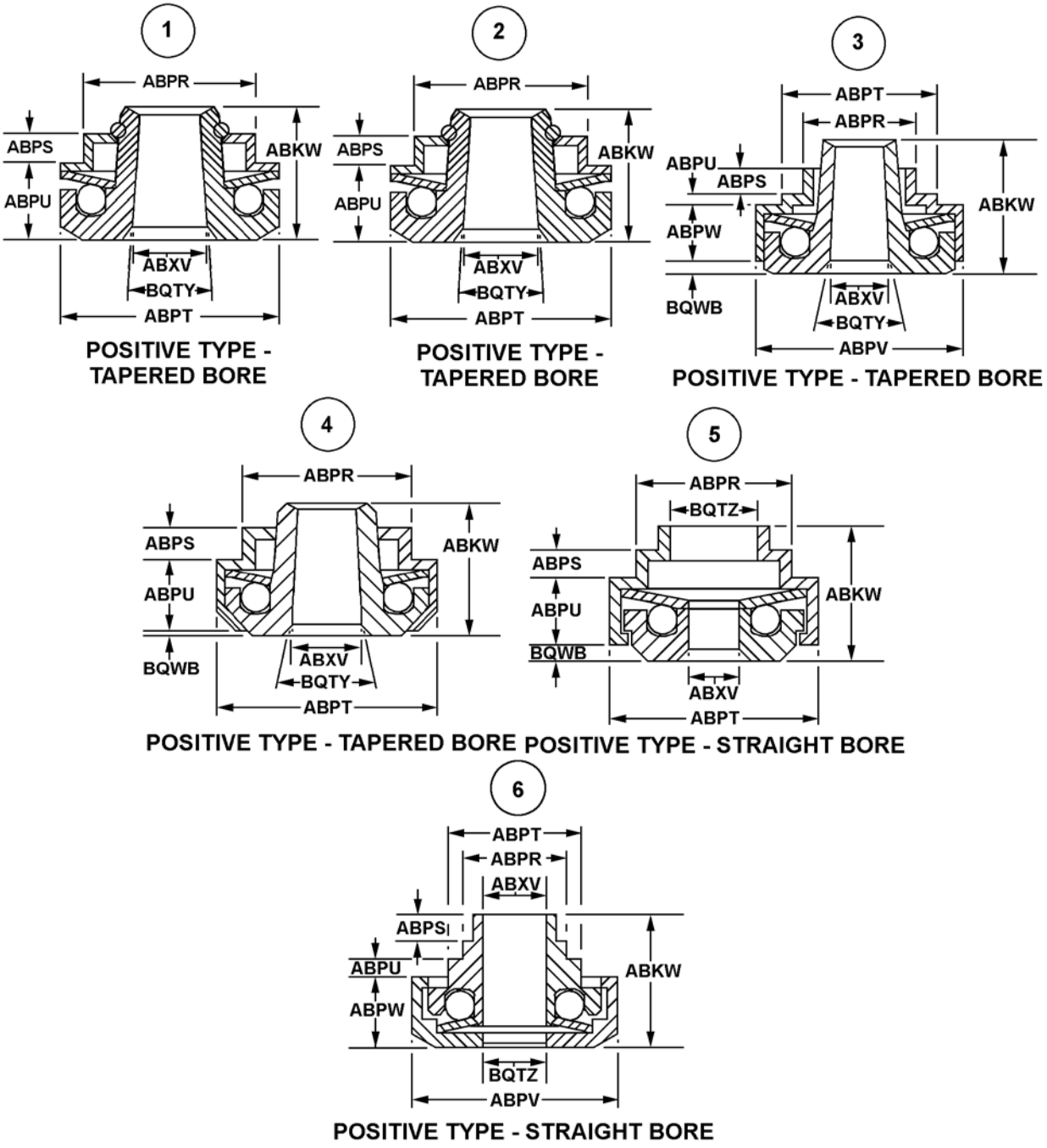
MRC	Mode Code	Name of Dimension
ABKW	J	OVERALL HEIGHT
ABPR	J	FIRST STEP DIAMETER
ABPS	J	FIRST STEP LENGTH
ABPT	J	SECOND STEP DIAMETER
ABPU	J	SECOND STEP LENGTH
ABPV	J	THIRD STEP DIAMETER
ABPW	J	THIRD STEP LENGTH
ABXV	J	BORE DIAMETER
BQTZ	J	SPRING AND BALL RETAINER INSIDE DIAMETER
BQWB	J	DISTANCE FROM END TO NEAREST STEP

Enter the reply in clear test. (e.g., BQTYG14DEG, 15 MIN PORM 30 MIN*)

MRC	Mode Code	Name of Dimension
BQTY	G	TAPERED BORE INCLUDED ANGLE IN DEG

REFERENCE DRAWING GROUP Q

ENGINE POPPET VALVE ROTOR STYLES



REFERENCE DRAWING GROUP R Tables
LINEAR-ROTARY MOTION ROLLER STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABKVJAA1.000*; ABKVJLA25.4*; ABKVJAB0.990$$JAC1.010*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

MRC	Mode Code	Name of Dimension
AAWY	J	COUNTERBORE DIAMETER
AAWZ	J	COUNTERBORE DEPTH
ABKV	J	OUTSIDE DIAMETER
ADGE	J	BORE LENGTH
AGFF	J	FLANGE WIDTH
AQPL	J	FACE WIDTH
ASBM	J	HUB DIAMETER
BCXD	J	BORE INSIDE DIAMETER
BQWF	J	OIL HOLE DIAMETER

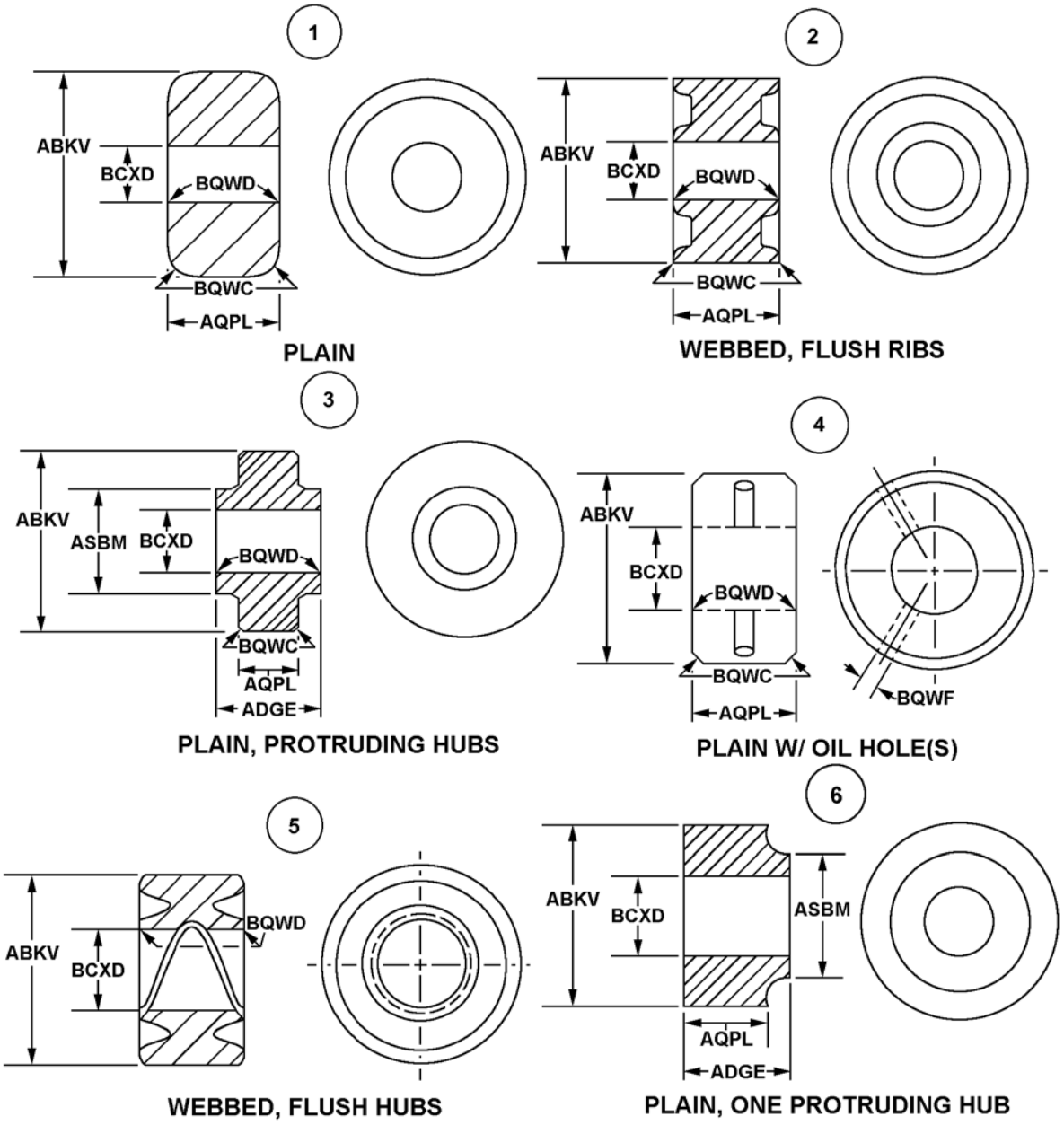
Enter the reply in clear text. (e.g., BQWCG0.016 IN. RADIUS*)

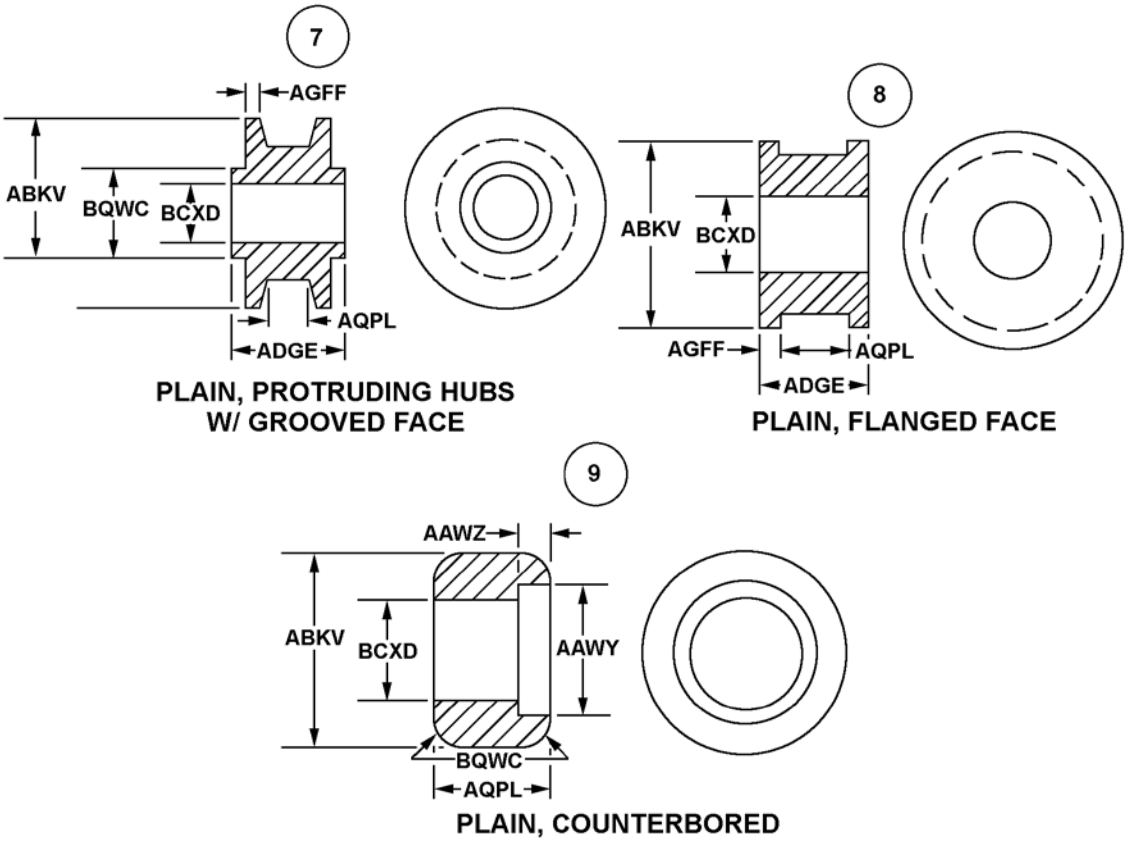
NOTE for MRCs BQWC and BQWD: Do not answer MRCs BQWC or BQWD for undimensioned corners having sharp edges broken, and for corners having a 1/64 inch or less dimension.

MRC	Mode Code	Name of Dimension
BQWC	G	CHAMFER/RADIUS OF OUTSIDE CORNER
BQWD	G	CHAMFER/RADIUS OF INSIDE CORNER

REFERENCE DRAWING GROUP R

LINEAR-ROTARY MOTION ROLLER STYLES




7
AGFF
ABKV
BQWC
BCXD
AQPL
ADGE
PLAIN, PROTRUDING HUBS
W/ GROOVED FACE
8
ABKV
BCXD
AGFF
AQPL
ADGE
PLAIN, FLANGED FACE
9
AAWZ
ABKV
BCXD
AAWY
BQWC
AQPL
PLAIN, COUNTERBORED

REFERENCE DRAWING GROUP S Tables
PRECOMBUSTION CHAMBER STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABHPJAA2.500*; ABHPJLA63.5*; ABHPJAB2.450$$JAC2.550*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

MRC	Mode Code	Name of Dimension
AAUB	J	HOLE DIAMETER
ABHP	J	OVERALL LENGTH
ABPM	J	BODY DIAMETER
AMSF	J	ORIFICE DIAMETER

Enter the thread size.

MRC	Mode Code	Name of Dimension
ABUJ	A	THREAD SIZE

Enter the numeric value. (e.g., AKZZB49.5*)

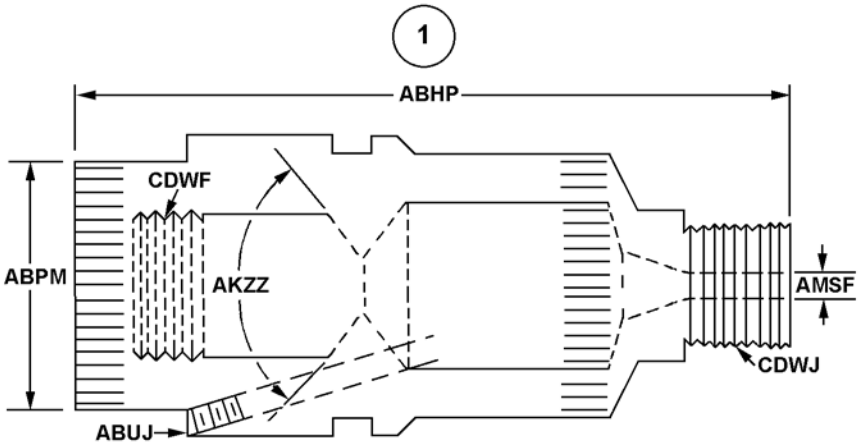
MRC	Mode Code	Name of Dimension
AKZZ	B	INCLUDED ANGLE IN DEG

Enter the reply in clear text.

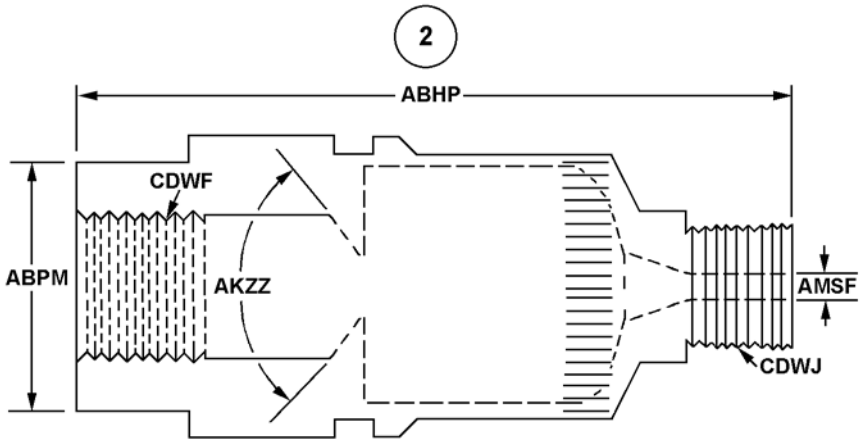
MRC	Mode Code	Name of Dimension
CDWF	G	INTERNAL THREAD DESIGNATION
CDWJ	G	EXTERNAL THREAD DESIGNATION

REFERENCE DRAWING GROUP S

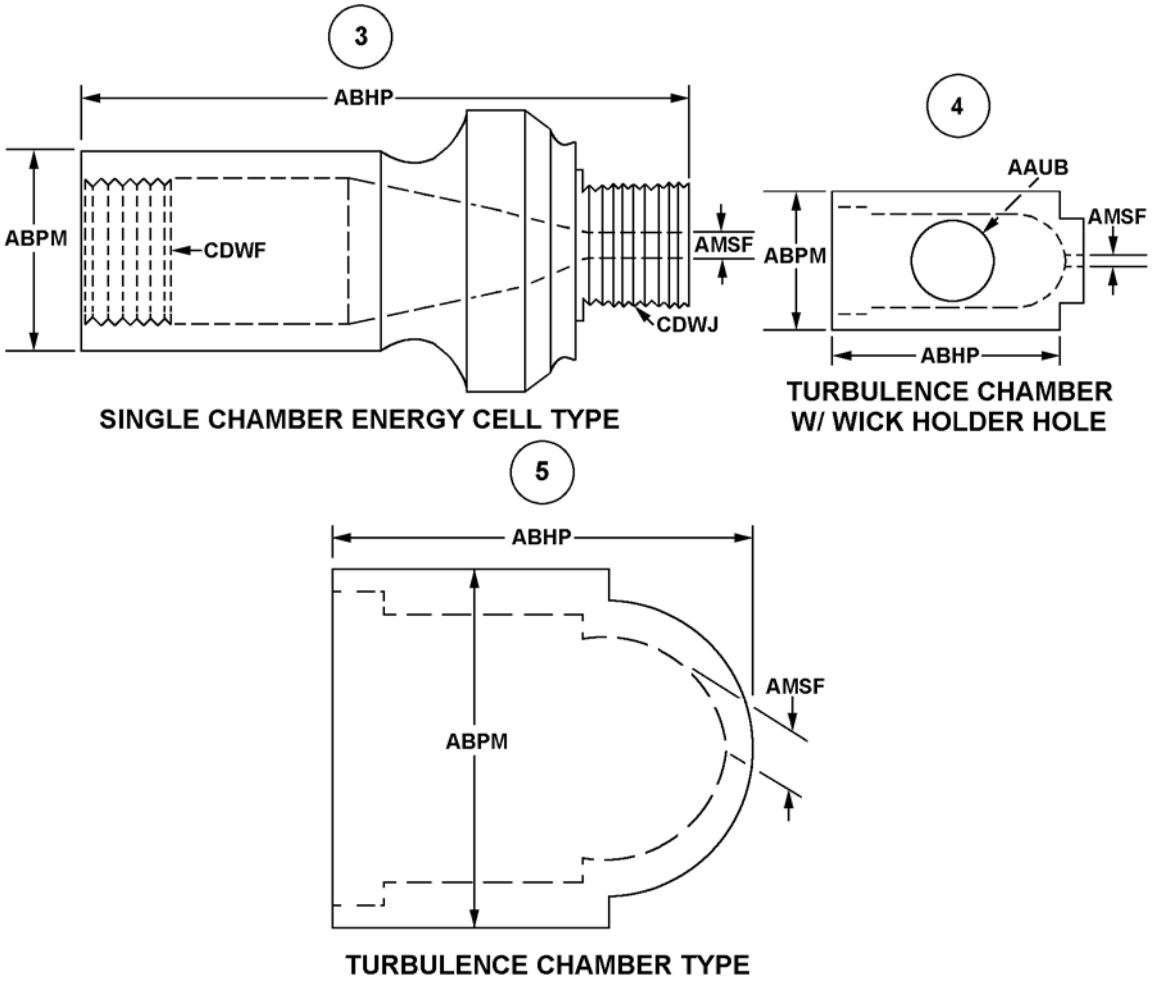
PRECOMBUSTION CHAMBER STYLES



ENERGY CELL TYPE W/ GLOW PLUG ACCOMMODATION



ENERGY CELL TYPE


3
ABHP
ABPM
CDWF
AMSF
CDWJ
SINGLE CHAMBER ENERGY CELL TYPE
4
AAUB
AMSF
ABPM
ABHP
TURBULENCE CHAMBER
W/ WICK HOLDER HOLE
5
ABHP
AMSF
ABPM
TURBULENCE CHAMBER TYPE

REFERENCE DRAWING GROUP T Tables
VALVE TAPPET ADJUSTING SCREW STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABHPJAA5.250*; ABHPJLA133.3*; ABHPJAB5.250$$JAC5.255*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

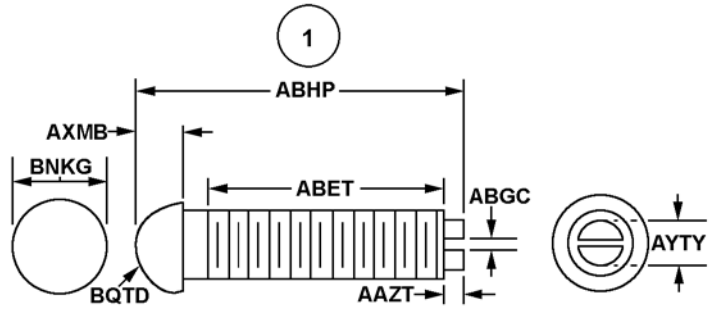
MRC	Mode Code	Name of Dimension
AAWX	J	CONCENTRIC HOLE DEPTH
AAXC	J	CONCENTRIC HOLE DIAMETER
AAZT	J	SLOT DEPTH
ABGC	J	SLOT WIDTH
ABHP	J	OVERALL LENGTH
ABND	J	TAPER LENGTH
ABPA	J	UNDERCUT DIAMETER
ABPC	J	UNDERCUT WIDTH
ABQA	J	TAPER MINOR DIAMETER
ASDB	J	WIDTH ACROSS FLATS
ATKZ	J	FIRST END THREAD LENGTH
ATLF	J	SECOND END THREAD LENGTH
AXMB	J	END LENGTH
AYTY	J	SMALLEST DIAMETER
BBKY	J	FIRST RADIAL FLUID HOLE DIAMETER
BNKG	J	END LARGEST DIAMETER
BQTD	J	END SPHERICAL RADIUS

Enter the applicable Reply Code from the table below, followed by the numeric value. (e.g., ABETJA0.750*; ABETJL19.1*)

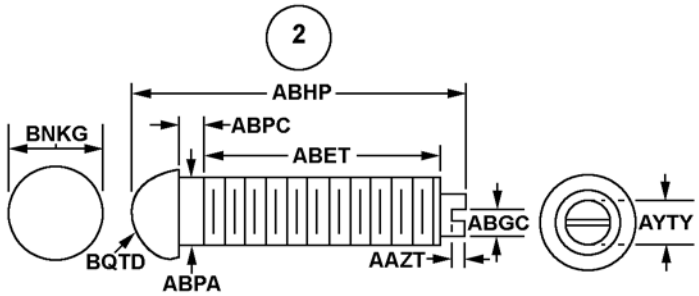
REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

MRC	Mode Code	Name of Dimension
ABET	J	THREAD LENGTH

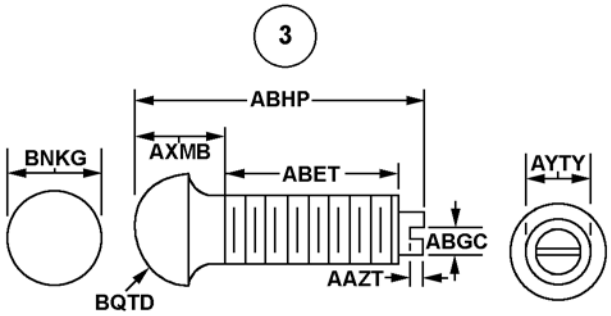
VALVE TAPPET ADJUSTING SCREW STYLES



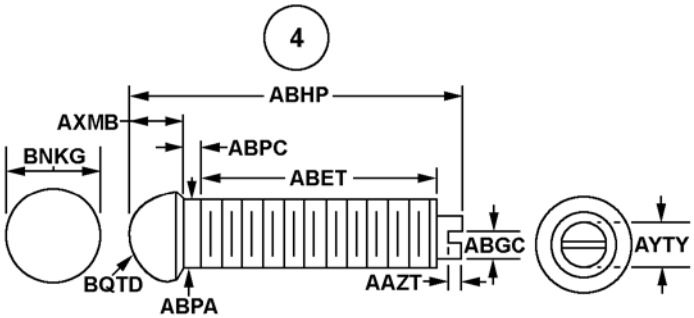
SPHERICAL HEAD, STRAIGHT THREAD, SLOT DRIVE



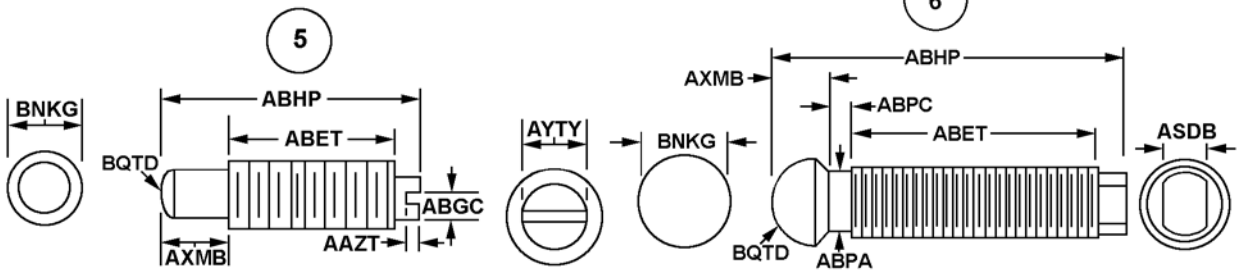
SPHERICAL HEAD, UNDERCUT, SLOT DRIVE



SPHERICAL MUSHROOM HEAD,
FULL THREAD, SLOT DRIVE

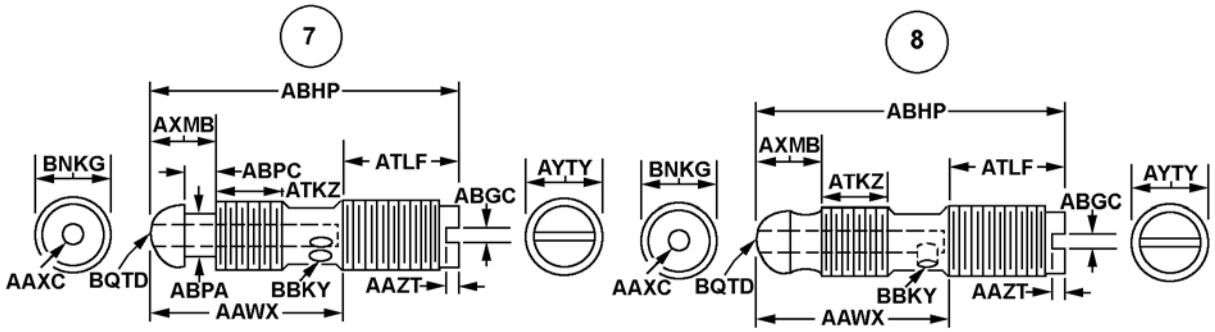


SPHERICAL HEAD, UNDERCUT,
SLOT DRIVE



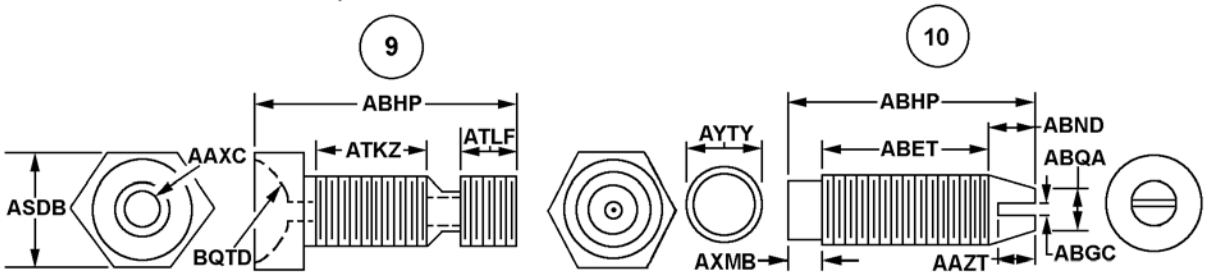
SPHERICAL HEAD, SHOULDERED, SLOT DRIVE

SPHERICAL HEAD, UNDERCUT, WRENCHING FLATS



SPHERICAL HEAD, UNDERCUT, DOUBLE THREAD, CONCENTRIC

SPHERICAL HEAD, DOUBLE THREAD, CONCENTRIC HOLE



CONCAVE HEXAGON HEAD, DOUBLE THREAD, THROUGH HOLE

FLAT HEAD, STRAIGHT, THREAD, TAPERED DRIVE END

REFERENCE DRAWING GROUP U Tables
ENGINE POPPET VALVE TAPPET GUIDE STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABHPJAA8.375*; ABHPJLA212.7*; ABHPJAB8.350$$JAC8.400*)

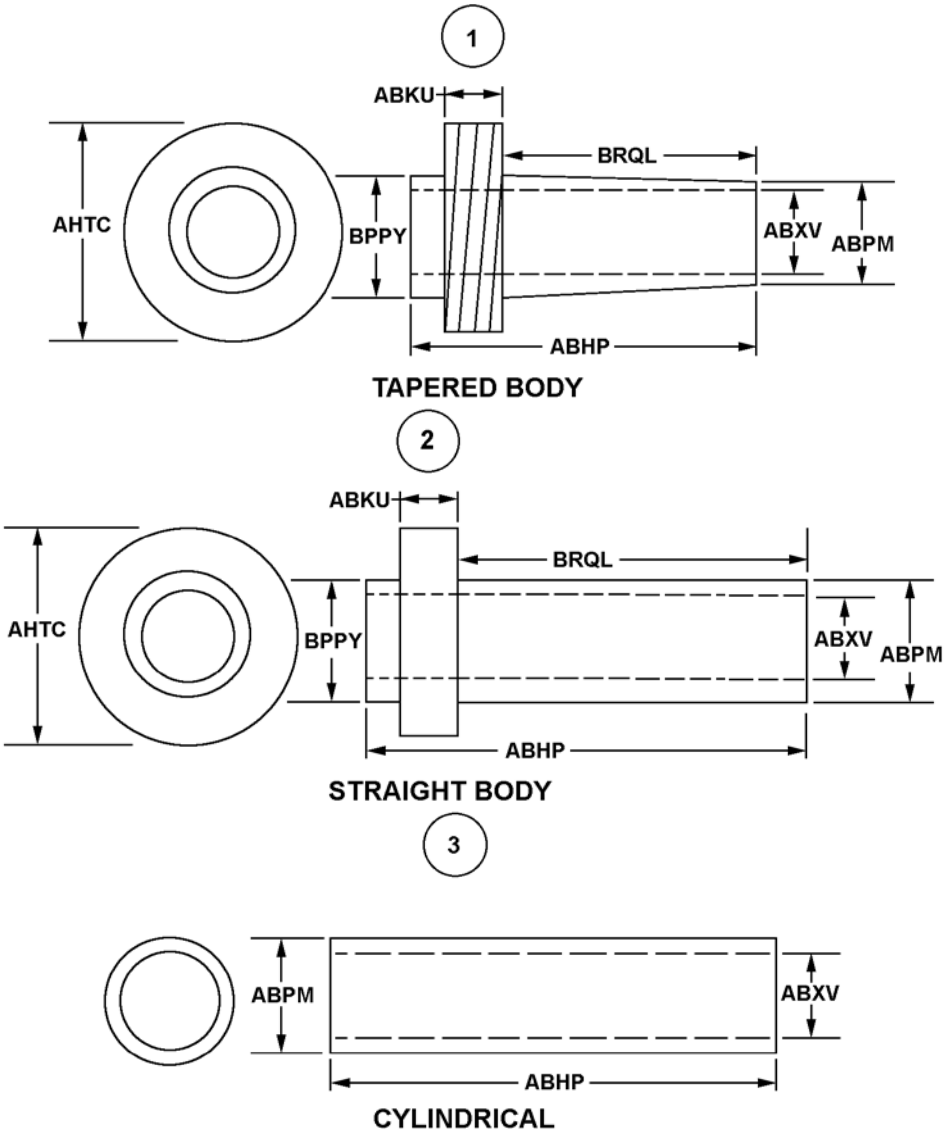
REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

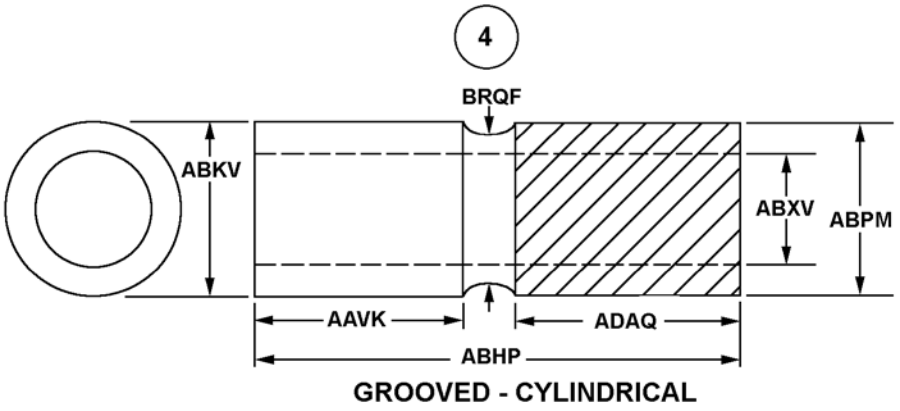
REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

MRC	Mode Code	Name of Dimension
AAVH	J	SHOULDER DIAMETER
AAVK	J	SHOULDER LENGTH
ABHP	J	OVERALL LENGTH
ABKU	J	FLANGE THICKNESS
ABKV	J	OUTSIDE DIAMETER
ABPM	J	BODY DIAMETER
ABXV	J	BORE DIAMETER
ADAQ	J	BODY LENGTH
AHTC	J	FLANGE OUTSIDE DIAMETER
BPPY	J	LARGEST OUTSIDE DIAMETER UNDER FLANGE
BRQF	J	DIAMETER AT GROOVE BOTTOM
BRQL	J	LENGTH TO SHOULDER

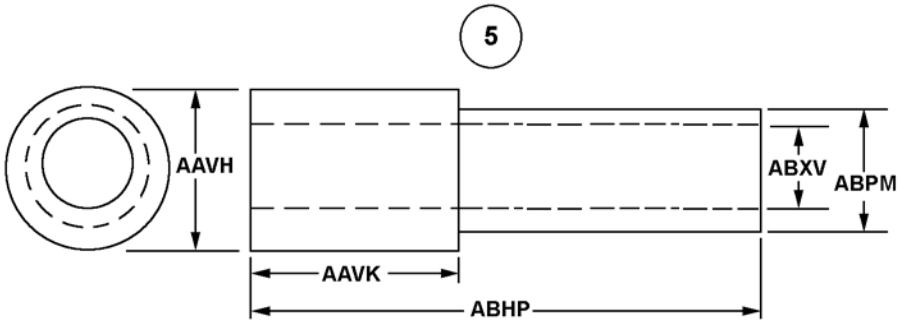
REFERENCE DRAWING GROUP U

ENGINE POPPET VALVE TAPPET GUIDE STYLES





GROOVED - CYLINDRICAL



STEPPED

Technical Data Tables

IDENTIFIED SECONDARY ADDRESS CODING

When push rod ends are not identical, the smallest style numbered end will be designated as the first end, and the larger style numbered end second. If ends have the same style number, the end with the smallest dimensions will be designated first end.

I/SAC FIELD INDICATOR	LOCATION
1A	FIRST END
1B	SECOND END
1C	ENDS IDENTICAL
2AA	FIRST END
2AB	FIRST END
2BA	SECOND END
2BB	SECOND END
2CA	ENDS IDENTICAL
2CB	ENDS IDENTICAL

STANDARD FRACTION TO DECIMAL CONVERSION CHART

4ths	8ths	16ths	32nds	64ths	To 3	To 4	4ths	8ths	16ths	32nds	64ths	To 3	To 4
				1/64	.016	.0156					33/64	.516	.5156
			1/32	-----	.031	.0312				17/32	------	.531	.5312
				3/64	.047	.0469					35/64	.547	.5469
		1/16	-----		.062	.0625			9/16	-----	-----	.562	.5625
				5/64	.078	.0781					37/64	.578	.5781
			3/32	-----	.094	.0938				19/32	------	.594	.5938
				7/64	.109	.1094					39/64	.609	.6094
	1/8	-----	-----	-----	.125	.1250		5/8	-----	-----	-----	.625	.6250
				9/64	.141	.1406					41/64	.641	.6406
			5/32	-----	.156	.1562				21/32	------	.656	.6562
				11/64	.172	.1719					43/64	.672	.6719
		3/16	-----	-----	.188	.1875			11/16	-----	-----	.688	.6875
				13/64	.203	.2031					45/64	.703	.7031
			7/32	------	.219	.2188				23/32	------	.719	.7188
				15/64	.234	.2344					47/64	.734	.7344
1/4	-----	-----	-----	-----	.250	.2500	3/4	-----	-----	-----	-----	.750	.7500
				17/64	.266	.2656					49/64	.766	.7656
			9/32	------	.281	.2812				25/32	------	.781	.7812
				19/64	.297	.2969					51/64	.797	.7969
		5/16	-----	-----	.312	.3125			13/16	-----	-----	.812	.8125
				21/64	.328	.3281					53/64	.828	.8281
			11/32	------	.344	.3438				27/32	------	.844	.8438
				23/64	.359	.3594					55/64	.859	.8594
	3/8	-----	-----	-----	.375	.3750		7/8	-----	-----	-----	.875	.8750
				25/64	.391	.3906					57/64	.891	.8906
			13/32	------	.406	.4062				29/32	------	.906	.9062
				27/64	.422	.4219					59/64	.922	.9219
		7/16	-----	-----	.438	.4375			15/16	-----	-----	.938	.9375
				29/64	.453	.4531					61/64	.953	.9531
			15/32	------	.469	.4688				31/32	------	.969	.9688
				31/64	.484	.4844					63/64	.984	.9844
					.500	.5000						1.000	1.0000

FIIG Change List

FIIG Change List, Effective September 3, 2010

This change replaced with ISAC or and/or coding.